


# A VENTURE IN EDUCATIONAL DEVELOPMENT

AN EXTERNAL EVALUATION REPORT ON  
THE BOPHUTHATSWANA TEACHER UPGRADING PROJECT  
MOUNTED BY THE SACHED TRUST

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with assistance from:

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 CENTRE FOR APPLIED SOCIAL SCIENCES  
UNIVERSITY OF NATAL/DURBAN

1982

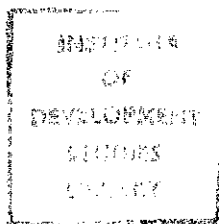


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#### ACKNOWLEDGEMENTS

This report has been long delayed due to extreme pressure of work and a leave of absence from the University of Natal in 1980 and 1981 while acting as Secretary of a KwaZulu Government Commission of Enquiry. I would like to thank the SACHED TRUST and the sponsors of the evaluation, THE ANGLO AMERICAN CORPORATION OF SOUTH AFRICA, for their patience in awaiting this final report.

My task as evaluator was enormously facilitated by the enthusiastic assistance, support, encouragement and, at times, prodding of several people. Lucienne Hunter performed magnificently in a role which was akin to that of administrator of the evaluation exercise. Her judgement, wisdom and energy also contributed very meaningfully to the study. Mary Emma Kuhn and Anne Wright could not be faulted in carrying out a lion's share of the basic data-gathering and also contributed rich insights to the analysis of the findings. Don Taylor carried out a highly competent exercise in assessing the cost-effectiveness of the project under very difficult circumstances. Davine Thaw conducted a content analysis of mountains of documentation with great efficiency and judgement.

I would also like to thank Marion Fraser for the typing of the report, and all the hundreds of people with whom interviews were conducted for their helpfulness in the field.

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## 1. INTRODUCTION

This is an evaluation report on a project which was directed at the core problem of Black education in South Africa: the qualifications and quality of Black teachers at the critical lower and intermediate levels of the school system. This project was terminated as a result of administrative action by the state departments concerned after three years of operation. During this period, however, many lessons were learned, many problems were illuminated and a method of teacher upgrading was subjected to a stern test of reality. The project must be recognised as a very important experiment in a vital field of development.

This report will attempt to:

- assess the value of the project as an approach to educational development;
- identify the problems which were encountered in the project and the degree to which the problems were dealt with adequately;
- evaluate in operational (as opposed to strictly educational) terms the success of the particular method of instruction adopted for the project;
- consider possible reasons for its early closure;
- assess the viability of the project in terms of its replicability by the ordinary formal education administration bodies dealing with Black education, as regards cost-effectiveness, organisational structure and educational content; and
- in the latter regard, point out any improvements to such a project, both in terms of procedures and evaluation, which would increase its effectiveness and viability.



Note on form of analysis: in the reporting which follows conclusions will be stated in the running analysis where they arise. While this does produce repetition, it avoids a lengthy concluding section in which some conclusions have to be substantiated for readers who may have overlooked points in the analysis.

The analysis may also appear to be repetitious in the sense that the same observations are recorded more than once where they emerge from different kinds of probes. It has been decided to leave the analysis in this form since the repetition itself represents an accumulation of evidence on a topic, strengthening particular conclusions.

#### 1.1. The Problems in Black Education:

##### A Brief Overview

Black education is characterised by a litany of inter-related problems. No purpose will be served by documenting these problems in great detail, since the broad issues at stake are well-known and the facts are incontrovertible. The following appear to be the key features:

Black education, relative to White education in South Africa, is severely under-financed. Reference is often made to differences in expenditure per pupil, which in White education is over fifteen times as high as in Black education! This is certainly an index of the problem but not too much should be made of the *precise* ratios since different factors operate in the different ethnic streams. For example, Black primary school education, with its huge numbers of pupils relative to those among Whites, must benefit cost-wise to some extent from economies of scale,<sup>1)</sup> and in this sense expenditure per pupil may *over-estimate* the inequity between the ethnic systems. On the other hand, however, since the White

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1) In relation to infrastructure. In regard to size of classes or pupil-teacher ratios no economies of scale are possible; indeed they are costs of scale.

educational infrastructure no longer needs to expand as fast as the infrastructure for Blacks, the index of expenditure per pupil may *under-estimate* the inequality between Black and White education. This issue cannot be resolved in this report. Suffice it to say that much more needs to be spent on Black education, but that equal importance should be attached to the selection of the most effective targets for increased expenditure within the Black educational system. Of commensurate concern is the question of what aspects of the educational systems involve most unnecessary and wasteful duplication as segregated systems and which should be targeted as first priorities for integration (at the organisational level, if not the classroom level, in the first instance).

Within Black education, the major problems, whether due mainly or partly to under-expenditure, or to other factors, can be listed as:

- large proportions of teachers with inadequate qualifications;
- substantial proportions of teachers who are poorly motivated and incorrectly orientated as regards their calling;
- poor conditions of service for Black teachers;
- a very high drop-out and failure rate in the progression up the educational levels (one-third of one per cent of Black pupils are in Matric compared with five per cent among Whites);
- (strictly related to the above) a relatively small number of superior high school graduates becoming available for teacher-training;
- an inadequate physical stock of classrooms, laboratories and other technical facilities, leading to severe over-crowding and classes which are too large for adequate instruction (a fact made inevitable by the lack of qualified teachers, in any event);

- particularly in rural areas, great distances and inconvenience in attending schools which are thinly spread in relation to population;
- lack of compulsory education which has as one of its negative effects the fact that children commence attending school very late or have breaks in school attendance. This leads to age incompatibility in classes and children who are too old and socially or sexually developed for the educational grade they are in;
- a perception among many Blacks that the fact of educational segregation implies very significant differences in education content, quality and syllabuses (a perception which may be exaggerated as regards syllabus requirements), leading to an undermining of confidence in the system and of morale;
- as a result of the social segregation and discrimination between races in South Africa, a very strong motive among Blacks to earn the right to social and occupational equality through educational achievements, providing educational participation with an intensity of feeling which may stimulate high motivation, but which also creates anxiety and stress within the participants;
- consequent upon the intensity of participation is often a very extrinsic or instrumental type of motivation among participants (a fixation with certificates) which reduces enjoyment of the educational experience and places emphasis on success by any means;
- in part due to this and in part due to poor teaching, a strongly-maintained tradition of rote learning, ritualistic approaches to education, and a high degree of passive dependence on teachers which undermine achievement in the higher standards;

- due to the poverty and poor educational standards of the older generation of Blacks, home environments which are not physically conducive to study and are not stimulating or likely to produce the social, verbal and manipulative skills which so powerfully aid success at school; and finally,
- overstressed school administrative systems which are unable to provide adequate extra-curricular and informal back-up to successful learning (lack of libraries, social facilities, varied organised recreation, etc.).

The very brief listing above indicates quite clearly that one has to deal with a vicious cycle of problems in Black education; each problem enlarging some other problem in the educational process.

#### 1.2. Priorities for Educational Development

The large question, then, is at which *point* in the cycle of problems is intervention by way of special programmes or increased expenditure likely to have most effect.

The question does not even arise with some problems; i.e. nothing can be done by educationalists about the home environment. It is highly relevant to other problems, however.

The question is usually posed as a choice between the following forms of intervention:

- teacher upgrading; or
- special assistance (extra tuition) to senior students whose success could increase the stock of good teachers; or
- extra tuition or other assistance in general, or at the lower levels to establish more correct approaches to learning which will improve the overall quality of the system as the effects filter up the grades; or
- enriched pre-school education.

Of these, teacher upgrading appears to be the obvious choice since the effects will be most immediate and pervasive in a system in which the need for amelioration of problems is urgent. Purely from a manpower perspective, the second choice (assistance to selected senior pupils) would be a more suggestive option, but that would not be primarily beneficial to the education system as such, since in a society in which skills are in short supply and teaching is generally poorly paid, the losses of successful matriculants to commerce and industry would be excessive.

It would appear that teacher upgrading is fairly clearly the most strategic option for those wishing to improve the quality of the *whole* educational system within the shortest possible time.

### 1.3. What Type of Teacher Upgrading?

Here again, various choices exist as to the most strategic type of input. Some of the options are:

- upgrading of teachers at high school level to ensure that there is maximum throughput of well-qualified matriculants to undergo training to augment the ranks of teachers at all levels; or
- upgrading of teachers at any level, focussing on teachers who are least well-qualified or at levels where the largest proportions are under-qualified.

Simultaneously a choice exists between the upgrading of teaching skills (in informal ways, since formal professional training is highly regulated and controlled by teacher training colleges or education departments at universities) or the upgrading of academic qualifications. These objectives are not mutually exclusive. It can be argued that teachers who are adequately qualified academically obviously have a better grasp of content, are more

confident and hence will be better teachers. Others will argue, however, that teaching methods and teaching skills are of more significance than qualifications and the improved teaching content. It is this author's view that the basic academic level of many Black teachers is so low that it simply has to be improved before emphasis can be placed on method and skill training.

It is possible, however, to conceive of limited-objective courses of a special kind involving some academic content specific to a teacher's subjects, coupled with practical training in teaching skills. Also, it is possible to think of assisting teachers in upgrading their academic qualifications in such a way as to simultaneously improve their approaches to teaching. This is what the project aimed at doing.

Choices at the level of teacher upgrading seem to be extremely complex and no one approach can easily be defined as more strategic than others. The concentration of effort on very senior teachers (i.e., those serving in the final two years of high school) can mean that resources are being directed at the least handicapped level of Black education. This is the level at which numbers have been reduced by earlier attrition, at which the most adequately qualified teachers may be concentrated, and the level where, even if teachers are under-qualified relative to formal requirements, they are usually people who have attained at least matriculation level, thereby proving a degree of ability. There are great problems at this very senior level, however, and an absolute lack of teaching personnel in certain subjects like Maths, Science and Biology may exist. Assistance at this level where qualifications may be 'minimally' adequate, may be effected by a combination of 'ad hoc' refresher courses for teachers during vacations, the provision of science teaching kits, and, if possible, a back-up teaching or tutorial service for senior pupils.

A substantial input of a more regular, ongoing kind would find its most strategic target among the lower and middle level teachers. At this level there is considerable incentive for teachers to improve their qualifications since promotion barriers can then be overcome. The teachers may also not be quite as highly-stressed as those at very senior levels, and hence better able to devote time to study. A problem here is that as teachers at the middle and lower levels become better qualified, they move up to senior levels to fill gaps. Hence any programme at the lower levels must be conceived as a long-term exercise so that ultimately the output of better qualified teachers will have saturated the more senior posts and more will tend to remain at the lower and middle levels.

This brief and cursory discussion does no more than illustrate the complexity of choice regarding a strategic input in teacher upgrading. Obviously, if resources are great, a mixed level, multi-faceted approach involving academic and other forms of upgrading is desirable.

Such an approach may involve method-upgrading for qualified teachers plus method and academic upgrading for under-qualified teachers. A keynote of the Black educational system in South Africa is limited resources, however, and more restricted choices are forced on any programme. The choice, however, remains difficult since no hard proof of the superiority of one choice above another is likely to be forthcoming. Obviously, as balanced an emphasis on academic and teaching method deficiencies as possible is called for, at whatever level. It is quite clear, whatever this balance may be, however, that if a Black educational system is to mount programmes that will improve its own internal quality, as opposed to simply addressing external manpower needs, teacher upgrading of some kind or another is the most strategic choice, and that its effects will be pervasive and beneficial at most levels

in the school hierarchy. Conclusions reached in the recent Human Sciences Research Council investigation into education are relevant here: "...the present situation with regard to the qualifications of teachers indicates the urgent need for the upgrading of qualifications by means of in-service training, particularly as regards Black, Coloured and Indian teachers. ...The expected explosion in the number of Black pupils in particular underlines the need for in-service training and especially for intensive short courses which will not withdraw the teachers from the classroom."<sup>1)</sup>

#### 1.4. The Setting of the Project - Bophuthatswana

In broad but significant terms, all the problems in Black education referred to above exist in Bophuthatswana, which has an educational system which is rooted in the old "Bantu Education" typical of virtually all Black education in South Africa over the past three decades.

Like all other Black areas in South Africa, Bophuthatswana generates a very high demand for primary school places, over-burdening the availability of qualified teachers. Just before the commencement of the project in 1974 there were 778 registered schools of which 682 were primary and 82 were secondary.<sup>2)</sup> There were some 304 000 primary and 30 000 post-primary pupils being taught by 5 579 teachers: a pupil-teacher ratio of 60:1. In 1972 there was a shortage of over 3 500 teachers. It would seem that more than 25% of teachers were professionally or academically under-qualified for the posts they held, in terms of the formal requirements of the Bophuthatswana Department of Education. Particularly at primary school level, however, the formal requirements are too low to ensure an adequate standard of teaching, since teachers can qualify after a Standard 6 plus three years of diploma study, or a poor Form Three plus two years. Some of these severely under-qualified teachers are even used at secondary school levels.

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1) Human Sciences Research Council, "Provision of Education in the RSA : Report of the Main Committee of the HSRC investigation into Education", Pretoria. HSRC July 1981, pp66,67.

2) These figures are presented by Robin Lee, Educational Consultant to the project, in "Distance Learning and Teacher Upgrading - A Project in Operation" (unpublished).



Clearly, Bophuthatswana represents a typical case of severe educational under-development and hence was an appropriate choice as the setting for the project.

#### 1.5. The Approach Adopted in this Evaluation

The evaluation being reported on here is based on three main sources of information: structured interviews with participants in the scheme ("pupil-teachers", tutors, assistant tutors, administrators, staff, etc.), unstructured interviews with key informants, including some tutors, and an analysis of documentary material generated during the running of the scheme. All told, interviews of both kinds were conducted with a sample of 76 students on the project, 10 assistant tutors, 7 tutors, 9 principals, 9 administrators of "study centres", 5 members of the staff of the project, 3 officials in the Bophuthatswana Department of Education and with the former director of the project.

The evaluation is general since it is concerned with the merits and viability of the scheme as planned, as well as with the way the scheme functioned. Hence the evaluation is not focussed on the educational inputs alone but on educational, economic, organisational, administrative and political aspects of the programme. In view of the large scope of the evaluation and the need for brevity, the content of the report which follows is of necessity rather synoptic.

## 2. THE CONCEPTUALISATION, PLANNING AND LAUNCHING OF THE PROJECT

### 2.1. The Early Planning of the Project

In early 1972, Mr David Adler of Turret College/SACHED started investigating the possibility of providing correspondence-based assistance in teacher upgrading. He held discussions with senior personnel at the Anglo American Corporation and held discussions within his own organisation. Initially, staff at Turret College were cautious - resources were limited and doubts were expressed about the viability of distance-learning with pre-standard eight pupil-teachers.

Over a year later the project was again reconsidered with great emphasis placed on an approach using well-trained tutors to support the correspondence-based approach. Between August and October 1973, Mr Adler discussed the project with the Bophuthatswana education authorities and addressed the Bophuthatswana Cabinet. An agreement in principle to a teacher-upgrading project was given by the Bophuthatswana Government in October 1973.

During early 1974, the proposed project and the method were discussed vigorously. At this stage the assumption was that the greatest demand would be for English, Maths and Biology at Junior Certificate level, and course-writing was discussed with this in view. A questionnaire to prospective students had by then been planned but was delayed. Eventually it was sent out in June 1974. Over 1 800 positive replies were received, indicating a great interest in the project. The results overturned much of the early planning, however, since there was less demand for Maths than expected, and the greatest demand was for Senior Certificate courses rather than the junior course. Generally the demand was for a more general range of courses than initially envisaged. Hence preparation for the writing of course materials had to be reviewed at a fairly late stage in the planning.

It would appear that some members of the staff at SACHED considered that basic planning for the project should have been more intensive. Doubts were also expressed about the ratio of tutors to pupils which was envisaged. These views were accepted, but, on the other hand, there was an equal or greater need to move ahead with the implementation planning. The need to preserve impetus on a project such as this is very great and, furthermore, insufficient theory or documented knowledge existed to resolve some of the important basic questions. Hence, in a sense, the project had to proceed without certainty on a range of basic questions of method and procedure.

Administrative arrangements with the Bophuthatswana authorities continued, probably as fast as can be expected of this kind of negotiation, and Dr Robin Lee assumed the directorship of the project in an interim capacity.

Two problems occurred at this early stage. Although there was a commitment to the appointment of a Black director, delays occurred in the implementation of this decision and the first Black director only assumed duty after the course-planning had been finalised in early 1975. This was unfortunate and indicates a problem in early preparation: however difficult it may have been to fill the post, the need to have a Black shadow-director from the very start of the project was essential (even if he would have needed exceptional back-up and support). A second problem was that it had been intended to conduct a full feasibility study. This was never done. There is evidence, therefore, that the planning machinery was overstressed in the early stages and that essential detailed planning work could not be done or was not done in time. Perhaps the project should have been delayed for a year to enable more careful and leisurely planning to be implemented. The impression is also gained that there was insufficient time for the course work preparation.

It must be stated immediately, however, that the planning of this kind of project in educational or community development is almost always short of time. The project under discussion was particularly complex and the negotiations with the Bophuthatswana educational authorities were intricate and time-consuming. *Therefore, although there were weaknesses in early planning, these occurred as a result of unforeseen factors and the need to maintain impetus on the project, and do not in any way reflect upon the commitment, judgement or energy of the people involved.*

## 2.2. The Conceptualisation of the Goals of the Project

As formally conceived, the project had two main aims. The first was to *"develop a system of supported distance teaching and learning which is educationally sound and cost-effective"*, and the second was (simultaneously) to *"provide opportunities for teachers in Bophuthatswana to study for and pass Junior and Senior Certificate examinations"*. Bophuthatswana was chosen for the implementation of the project for a variety of reasons, including the great educational need in the territory, convenient location and the fact that the education authorities in self-governing Bophuthatswana had some degree of autonomy and for this reason implementation would be facilitated. A full statement of the formal aims and principles appears in Appendix 1 to this report.

The project, in operational terms, was to involve:

1. The recruitment and selection of teachers in Bophuthatswana who wished to improve their academic qualifications by studying for Junior or Senior Certificate examinations.
2. The enrolment of these students in a part-time course of study alongside their normal teaching duties (with considerable official relaxation of their extra-curricular responsibilities assumed).

3. Their attendance for four afternoons a week (later on, three) at especially established *study centres*. These study centres were mainly primary schools in ordinary use, conveniently located, in which the headmaster or a senior teacher was to be given a part-time responsibility as administrator of the study centre, who would monitor attendance, supervise study in the absence of tutors, and issue books. Students were additionally expected to study for 2 to 3 hours per week at home.
4. The study method was to involve the use of special *study materials* (course materials) specially prepared for the targeted audience by SACHED course-writers, who would maintain close contact with tutors.
5. The learning method of the study centres was to involve the students forming groups or pairs and working together at their studies, in an atmosphere conducive to sustained and committed work. Educationally, the method relied on an adequate coverage of the syllabus in course materials and study schedules, self-reliance among the students and hence continued effort in the absence of a tutor.
6. The provision of tutoring services, in the form of one very senior teacher per subject, seconded to the project while maintaining his position in the educational hierarchy (with his service on the project counting for career purposes). Tutors were to visit centres in a regular cycle, each student usually receiving two classes in each subject (a total of six classes) in every three-week cycle. The programme was officially classified as an "aided school" in order to make possible the secondment of tutors.
7. The regular setting of assignments and the rapid evaluation and return of these assignments to students by tutors, who would discuss problems fully.

8. Access of students to libraries and some study aids (tapes and slides) at study centres.
9. Attendance by students at vacation summer and winter schools as an enrichment to course work (the equivalent of roughly eight full-day seminars per year).
10. The continuous evaluation of the programme by a staff of evaluators not too closely connected with the normal staff of the project, who would provide feedback to course-writers and tutors.
11. After five years, the handing over of an administratively viable project to the Bophuthatswana Government.

The programme's cost effectiveness was to be secured by the fact that teachers involved as pupils would continue in their normal duties, the salaries of tutors would be reduced by the method of student self-reliance and the fact that existing physical infrastructure was to be used (study centres being normal school facilities). A full statement of the aims, goals and principles of the project as well as references to the background materials studied in designing the project, is to be found in Appendix 2A, in the form of an article by the initial director, Dr Robin Lee: *"Distance Learning and Teacher Upgrading : A Project in Operation"*.

These, then, were the formal aims of the project. Some ambiguity exists in a very basic sense. The formal aims specify the development of the distance learning method and the upgrading of teachers' academic qualifications, but they do not refer specifically to the aim of changing the student-teacher approach to learning (although this is implicit in the method of self-reliance). It may have been that there was some internal disagreement (or lack of consensus) within SACHED concerning the importance of adhering strictly to the special method. One viewpoint seemed to be that the method of independent learning could be applied flexibly or gradually, while another

view was that it should be adhered to very strictly, eventually resulting in less and less reliance on a tutor. The issue was not formally resolved or clarified. Indeed, it is difficult to see how such an issue could have been clarified, since no guidelines as to the appropriate balance between the two options existed at the time.

As we shall see in the discussion of tutors and the method in later sections of this report, the ambiguity had some very deleterious effects within SACHED, however. While the informal aim of encouraging autonomous and independent critical learning was fairly prominent (see "Preliminary Review of Aims, Shirley Singer, 29.10.77, reproduced as Appendix 3B), it is doubtful whether this was forcefully and consistently communicated to field staff.

*Apart from the element of ambiguity regarding the method, however, the goals of the project were adequately specified and the design of the target seems to have been a balanced and wise choice between options. The concentration mainly on primary school teachers who could move up to more senior positions as they gained qualifications or stay to enrich the teaching at lower levels meant that the effect upon the whole system would be pervasive, involving a minimum of disruption of what was a highly stressed and pressurised service.*

One drawback, once again aside from the ambiguity regarding the "method", was that the lack of a trial run and/or feasibility study made it impossible to assess in advance how adequately the students could cope with the schedule of work expected of them. It was later shown that many of them struggled and failed to keep abreast. Furthermore, the adequacy of attendance at study centres could not be predicted in advance, and later on severe problems arose. It might be argued that in this sense the conceptualisation and design fell short in regard to certain specific but important practical aspects of planning, and a trial run or feasibility study should have been mounted.

Two points are relevant, however. Firstly, some early mistakes were perhaps not too serious since in an ongoing project of this kind adjustments can be made in the course of time, as indeed happened. Secondly, the project in itself was an experimental project, and part of the intention was to isolate problems. *These two points notwithstanding, however, since the project had to demonstrate success and viability, the lack of a more detailed feasibility exercise for some aspects of the planning weakened the project in such a way that not all the effects could be corrected by running changes, as we shall see later.*

### 2.3. The Need for a Preliminary "Political" Analysis

In an interview with Dr Lee, the author discussed certain difficulties which the scheme had encountered and Dr Lee voiced the opinion that a much more adequate early analysis should have been made of the environment of Bophuthatswana and its education department. As will be seen presently, certain features were present which ultimately harmed the project deeply. These included a sensitivity to certain political statements by tutors on the part of student teachers who were connected with political figures (senior officials) in Bophuthatswana, an inability to cope with or understand the informal yet what was seen as the directive style of Mr David Adler, and great anxieties and insecurities on the part of tutors regarding the implications for their careers of secondment to the project. *Here again, the extra time made available by a trial run or feasibility study would have allowed some of these problems to be recognised in good time. State departments, in any society, are remarkably "sensitive" organisations, and great care and circumspection has to be employed in any joint ventures involving outside, more academically-orientated bodies. An advance analysis of these difficulties or a very high-level, ongoing sub-committee jointly representing the department and the project to monitor progress and difficulties could have avoided some, if not all, problems.*



There is a great deal to suggest that the choice of Bophuthatswana was a "second best" option, since many of the project staff would have liked to avoid working in a "homeland" for political reasons. This probably meant that there was a certain lack of incentive to make a thorough "political" analysis of the situation of the planned project.

#### 2.4. The Need for More Documenting of Early Planning and Conceptualisation

There appears to have been a great deal of discussion within SACHED/Turret College about the project in the early stages. While most of the final discussions are adequately documented, it seems as if very interesting early debates were held concerning the options open to the programme and basic principles involved, which were not documented. There is also a suggestion here and there of fairly serious disagreements concerning working in Bophuthatswana and the amount of tutor-support necessary. The ongoing evaluators on the project and the external evaluator would have found documentation of these debates and discussions most helpful. In Appendix 3A, for example, appears a list of questions which members of the project staff were to ask themselves about the programme. The questions are very important ones. While there were very important reasons to move ahead with implementation, *it is a pity that the debate around these items, the conclusions drawn, the agreements or disagreements reached, etc. were not set out in a fairly substantial basic exposition of the early conceptualisation of the programme.*

3. THE PROJECT IN PROCESS: THE REACTIONS  
OF THE PARTICIPATING STUDENTS

We now turn to an examination of the project as it progressed on the ground. This assessment will be made under a number of different headings, as appears from the table of contents. It is appropriate, however, to commence with a broad analysis of the results of the main interview study - the interviews with students - which covered several different aspects of the scheme. Where these results overlap with later sections of this report, we will refer back to them. It is helpful, however, to make an assessment of the student reactions as a whole since so many of their responses are inter-related.

The interviews with students were conducted on a face-to-face basis. Interviews were lengthy, the student interviews being about three hours in duration. The results were content-analysed to produce answer categories, into which all replies were coded and then processed on the University of Natal computer. Interviews were conducted with a representative cross-section of 76 former participants. The sample was not strictly random, since the logistics of interviewing and mobility of students made a perfect random sample impossible. The sample, however, does represent all the different ages and levels of seniority, as well as the different areas and study centres. With one factor as a slight exception<sup>1)</sup>, there was no conscious bias in the selection of teacher-respondents and the results can safely be taken as reflecting the views of the larger universe. The interview schedule for students appears in Appendix 4, along with other interview schedules.

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1) There was some difficulty in contacting respondents at very remote schools along muddy roads. This might have led to physical difficulties in attending centres being slightly under-emphasised in the results.

### 3.1. Student Perceptions of the Project as a Whole

After having asked a sufficient number of diverse questions to orientate the student respondents towards the programme and to refresh their memories, the students were asked what they considered to be the *best* and the *worst* features of the scheme. The spontaneous answers were probed to elicit additional ideas and hence most students gave more than one answer. The students' perceptions of the best features of the project were as follows:

<u>Best Features of Project Among 76 Student Respondents</u>	<u>Percentage Mention</u>	1)
Appreciation of tutor support, quality of tutors and their methods	66%	
Appreciation of workbooks as a method	41%	
The encouragement offered by the study centre environment	21%	
Appreciation of the administration of study centre	14%	
Liked the group study/group discussion method	13%	
Appreciated study aids (apart from workbooks)	13%	
Appreciated tests and explanation of errors	12%	
Summer/winter schools	8%	
(Other features received less than 5% mention each.)		

The students were far less able to identify negative features than positive aspects. The distribution of responses was as follows:

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1) In this and several subsequent tables, the percentages when summed exceed 100, due to the fact that more than one response per student could be given.

Worst Features of Project Among 76 Student Respondents	Percentage Mention
Unable to identify any negative feature	41%
Infrequency or irregularity of tutor visits (visits missed)	21%
Unhelpful attitudes of some tutors	12%
Workbooks not available on time	11%
Poor organisation of study centre; space, noise and disturbance	11%
Felt the need to be taught, not tutored	9%
Distance of travel to study centres	7%
Timetable problems	3%

Generally, the two sets of results constitute a very favourable picture. It must be remembered, however, that the students perceived their situation generally as one of studying *on their own*, with *assistance* from the project. Had they been studying in an institution (i.e. a part-time teacher upgrading "college") the frequency of contact with tutors would have been perceived in a very negative light. In fact, the greatest anxieties and tensions existed in regard to the issue of *support* while studying, and even though only 21 percent mention infrequency of contact with tutors as a problem, most would have *liked* more contact with tutors.

A distinct problem emerging for the programme is the low percentage (13 percent) who appreciated the group-study or pair-study method. The idea of group or partner support in study, as we have seen, was one of the central principles of the project, and the results suggest that *more attention could have been given to formalising it in such a way that it was more prominent in the minds of students as a substitute for the classroom situation.* (Mention has already been made that it was insufficiently formalised in the statement of aims and goals.) Those who accepted the method and used it fruitfully found it rewarding: they often said "*We could be teachers to each other*".

When asked an overall question about *practical difficulties* encountered on the project, the students gave the following array of answers:

Practical Difficulties on Project

No practical difficulties mentioned	45%
Insufficient time for homework or assignments	19%
Difficulties with transport or distance	14%
Time pressures prevented regular attendance at centre	14%
Poor organisation and facilities at centre	9%
Personal problems	5%
Arrived at centre tired	2%

Answers regarding attendance at centres may have understated the difficulties somewhat, but generally the range and pattern of responses shows what may be expected from part-time working students.

3.2. Reactions to the Study Centres

Central to the project were the study centres in strategic schools, supervised by administrators. Being located in schools, for some participants (approximately one-third of students) the study centres were in fact their work environment, but nevertheless for everyone they were fairly familiar places. Respondents were asked how useful they found attending the study centres to be, and the spontaneous probed answers appear on the following page:

Value of Attending Study Centres

Good tutors	62%
Stimulation from study partners	18%
Useful study materials	16%
Course content and techniques of tuition	14%
Provided motivation	5%
Provided time and opportunity of study	3%
Other favourable comments	4%
Not useful or ambivalent:	
- Attitudes of tutors	5 )
- Noise and distraction	3 )
- Other disadvantages	4 )

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Here again we encounter the dominant importance of tutors in the perceptions of the students, and the relatively low importance accorded to the other aspects of the scheme.

These results may under-rate the real or potential importance of the study centres somewhat, however, since when the respondents were asked where they preferred to do their private study, most indicated a preference for a school environment. The main reason was a lack of interference and disturbance, but 23 percent of the total group of respondents mentioned factors like the library, study aids, or support and encouragement from fellow students; hence indicating that they were thinking of the study centres themselves. One said *"We had creative company with which to study"*, while another said *"The spirit at the study centre was good, encouraging us to work harder"*.

Nevertheless, dominant in the minds of the students is the role of the tutor, and it would seem that tutor quality shaped the overall perceptions of the scheme. It is necessary, therefore, to consider specific reaction to tutors.

### 3.3. The Experience of Tutors

Students were asked to evaluate each of their tutors by 'scoring' them in terms of points out of ten - a familiar operation for school teachers. The tutors were scored in terms of 'helpfulness'. The following are the scores for each subject tutor, also included are the proportions finding the tutor completely or in some way unhelpful.

#### Score Evaluation of Each Tutor

	<u>8 or more out of 10</u>	<u>Under 5 out of 10</u>	<u>Tutor wholly or partly unhelpful</u>
English	48%	2	2
Afrikaans (Mr A)	85%	Nil	Nil
Afrikaans (Mr B)	40%	25	40
Tswana	34%	Nil	8
History	31%	20	23
Biology	18%	25	38
Geography	12%	28	44

Some of the students' verbatim comments indicate why such large disparities exist between tutors: *"He was not clear and (he was) rude, he did not take us for adults."* *"Some tutors come to the study centre but do not attend to their classes."* *"Tutors must not come to the study centre and sit in an office."* *"Afrikaans useless after Mr A left - other man taught through English."* *"Must have tutors like Mr A, strict but tolerant, patient even for silly questions, out for progress of all his students."* *"He (another tutor) only stood and watched us filling in our workbooks."*

From this it appears quite clearly that the student experiences of the tutors differed very dramatically between tutors. Since their role was such a key one, it is essential to consider the reasons why these differences in reaction were present, and why almost a majority of the carefully selected tutors was not perceived to be excellent or even satisfactory. The most highly regarded

tutor was the first Afrikaans tutor, Mr A. The students gave the following major reasons for considering him to be very helpful:

Why the Best Tutor was Considered Helpful

Ability in explaining work/gave intensive personal attention to students with their problems	63%
Ability to present work and to organise and pace his presentation	54%
Aroused interest and motivated students	39%

These reasons accord very much with what a good tutor or teacher in the conventional sense is assumed to be. The main reasons why the other tutors were considered to be less helpful were the following:

Rank Order of Reasons Why Tutors Were Considered Unhelpful

(Responses for each tutor summed and a rank order calculated on the average for all tutors included.)

Most Important	1) Did not or was unwilling to explain patiently.
	2) Domineering and critical/dealt with adults like children.
	3) (Bad pacing of work/too much (or too little. (Did not motivate and inspire (students. (Unprepared/not punctual/off (the point.
Less Important	4) Subject was a difficult one.
	5) Tutor not expert in subject.

The respondents were also asked to describe someone they would have regarded as an ideal tutor - a tutor they would have really liked. The profile of replies was as follows:



#### Ideal Tutor

Same qualities as tutors on project	12%
Empathy and patience with part-time students	70%
Diligence in preparation, marking and giving assignments	26%
Good teaching technique and style	23%
Able to motivate students to love subject	15%
Knowledge and competence in subject	12%
Tutors who would use conventional methods of teaching	12%
Other answers less frequent	8%

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From these results it appears that the part-time students place a priority on the tutor who will patiently and with sympathy explain different aspects of the work, deal with problems and generally be supportive.

Authoritarian methods would be totally rejected and the respondents were obviously very critical of weaknesses in teaching techniques.

At this stage, it is very important to note that the tutor who received the highest score, Mr A (Afrikaans), rejected the 'method' and resorted to lecturing and teaching.

Therefore, the main answer given above as a quality of an *ideal* tutor ("*empathy and patience with students*") may conceal a strong degree of felt need for conventional, paternalistic teaching methods. However, this may be an over-interpretation. What the students may have wanted was not so much conventional teaching but empathy - the feeling that the tutor was committed to their success, and on their side. *Certainly the 'method' would have been much more easily accommodated if all tutors had been empathic.* This issue will be discussed later in the separate section dealing with tutors and the 'method'.

#### 3.4. The Experience of Administrators and School Principals

Key figures in the project were the school principals and administrators, since these functionaries could do a great deal to impede or facilitate the project. The detailed problems are dealt with in other sections of this report. Here we are concerned with the students' perceptions of these figures and their attitudes.

Principals of the schools at which students were teaching appeared to co-operate formally in most instances. When asked whether or not principals took steps to lighten their load of extra-mural duties, 66 percent of students indicated that this had been done; only some 8 percent of the students felt that the principals had been reluctant or difficult. In some cases, however, a principal would completely sabotage particular students: *"We missed 95% of sessions because the principal refused us permission to attend."*

More generally, the respondents were asked to score the extent to which principals and the study centre administrators were helpful and encouraging. The scores out of ten were as follows:

##### Score out of 10 for Principals and Administrators of Study Centres

	<u>Principals</u>	<u>Administrators</u>
8+ out of 10	30%	50%
less than 5 out of 10	26%	7%

It should be noted that the contrast between the results for the two groups is *under-estimated* due to the fact that there was an overlap between the two groups; some administrators were also school principals and were rated in both capacities.

Some 25 percent of respondents in motivating their scores indicated that principals in some way impeded their efforts. *Over 40 percent of the respondents described the attitude of principals as negative.*

On the other hand, slightly less than 10 percent of respondents described the attitude of administrators of study centres as negative. A further roughly 10 percent assessed them as inconsistent or inefficient, but on the whole they were seen as positively motivated and helpful.

Clearly, the principals, although they probably extended the required minimum of formal co-operation as instructed, found it a burden to have some of their teachers unavailable for full extra-mural duties and their attitude had an effect. The attitude, however, was subtle and often affected only particular individuals, and less than 10 percent of students reported a marked reversal of attitude after the project was terminated.

As regards administrators, it would seem that, apart from one or two specific exceptions which will be reported on presently, the role was performed adequately and to the satisfaction of the vast majority of students.

### 3.5. The Pressure of Extra-Mural Duties

Only 12 percent of the respondents claimed not to have to perform functions at their schools after hours while they were studying. Nearly 90 percent had to take some sport or games, some 60 percent had to take music, and 38 percent had other duties in extra-mural hours. While the majority had these duties twice a week or less, a few people actually had them three or four times a week. Clearly, the attitude of school principals was manifested in some pressure on teacher-students to continue with their duties. *Over 35 percent of students were not released from extra-mural duties which specifically clashed with the project, or did not ask to be released.* In fairness, however, many of

the respondents admitted that they continued their duties out of choice. Teachers seemed to be particularly devoted to choir work and were personally unwilling to relinquish this pleasant task.

### 3.6. The Pressure of Time in the Lives of the Students

Some 62 percent indicated a distinct preference for doing their studying at their schools or at the study centres, because of the facilities available but also because of the absence of interruptions and disturbances. Yet, less than 20 percent, when questioned, seemed to have had sufficient time in the afternoons for study. What seems clear is that the students were attending the centres under severe pressure of time and the attendance figures, referred to presently, reflect these difficulties.

### 3.7. Privacy for Study

Only between 40 and 45 percent of the students indicated that they had a place (apart from study centres) where they could study in private without disturbances, whether at school or at their homes. The remainder had varying degrees of interruptions, noise or other disturbances to concentration. For this reason, their regular attendance at study centres was vital and it was a severe shortcoming that they were under so much time pressure in the afternoons.

### 3.8. Problems of Travel to Study Centres

Slightly over 30 percent found that the study centres were inconveniently located relative to their schools. Adding in those whose own schools were inconveniently located in relation to their homes meant that *nearly four out of ten students* suffered some kind of inconvenience in attending (or staying on at) the study centres. Here again, this will be reflected in attendance figures.

### 3.9. Attendance at Study Centres

As already indicated, the problems of transportation and extra-mural activities at their schools had a marked effect on attendance at study centres. Slightly over 25 percent of students *admitted* that they attended less than 75 percent of the sessions. This must be taken as an under-estimate of the true non-attendance if only because of selective recall of a past behaviour pattern. The interviewers' impressions were that at least as many as 30 percent of students attended less than 75 percent of the sessions at the study centres. We also have a suspicion that students *assumed* that they were only *really supposed* to attend when tutors were present, despite emphatic announcements to the contrary. If this is so, 30 percent of students *on average* were attending *less than one-third of the formally required sessions*, or less than one session per week.

### 3.10. Overall Extent of Difficulties in Attending Study Centres

Only some 30 percent of the students had no severe difficulty at some stage or another in attending the study centres. Their responsibilities as teachers was the most serious problem, followed by problems of distance, transport and their own health. It should be noted at that point that later results show that *there is a relationship between attendance at the centre and performance in passing examinations*, which, although not statistically highly significant in the results, is an indication of the seriousness of breakdowns in attendance.

Students were provided with work schedules in order to assist them in staying abreast of their work. From answers obtained in the survey, it seemed that *substantially less than one half of the students* were able to keep abreast of

the work in all subjects as stipulated in the schedules. Almost all the students felt that the schedules were useful and many saw them as vital to success. Their reasons for not keeping pace with the schedules were fairly obvious in the light of what has already been noted:

*insufficient time;*  
*too much schoolwork;*

as well as a host of minor reasons.

*Clearly, the facility with which the students could or would attend formal study centre sessions and keep abreast of work schedules was seriously over-estimated in initial planning.*

### 3.11. Overall Assessments by the Students of the Different Components of the Project

It is of interest to see how students compared the different 'elements' in the programme in terms of their 'helpfulness' in achieving success. The procedure used throughout was to ask them to assign a 'score out of ten'. Some of these scores have already been presented, but are given again in a comparative context. The following were the proportions rating each of the elements highly favourably, giving a score of 8 or more out of ten:

#### Percentages Giving 8 or More Out of 10 to Each of the Different Elements in the Teacher Upgrading Programme

Study Materials	52%
Study Centre Administrators	50%
Encouragement from Family	45%
Tutors (average of wide range from 85% to 12%)	38%
Own Effort and Motivation	34%
Encouragement from Friends	33%
Encouragement from Principals	30%

There was a wide range in the ratings of study materials with ratings for language-study materials being higher than the ratings for the other subjects. One must assume that the more difficult study materials were down-rated. Even so, the appreciation of the study materials is high. Tutoring, the 'element' perceived by the students to be most vital is not highly rated, in relative terms, and the most important 'facilitators', the principals of the schools the students taught in, receive the lowest ratings of all.

It is of interest to note that the students do not inflate their own efforts - they were remarkably realistic in the interviews and in the ratings (except that they tended to say that the tutors saw them as hard-working, keen and co-operative).

They were aware of their disabilities, which were great. The motivation of students was generally high, but ability to put the motivation to practical effect was limited by circumstances such as those already described.

### 3.12. Influence of the Programme on the Students' Approach to Teaching and Studying

These topics are dealt with more fully in other sections of the report. At this stage it is perhaps only necessary to outline the attitudes of students in broad terms.

Some 55 percent of the students interviewed identified independence of thought and autonomy as being qualities to be encouraged and commended in a pupil. One student typically remarked "*One who sits quietly and stares into the back (sic) is not a good pupil; lively, talkative ones remember what was taught*". Generally, they tended also not to emphasise discipline or authority in the characteristics they ascribed to a good teacher. Although their attitudes are complex and often contradictory, they are generally open to non-conventional teaching methods, provided sufficient support

is given by the teacher to pupils in dealing with problems. There is quite substantial recognition of the value of progressive methods in teaching and learning. In the interview generally they displayed an *anxious need* for more tutoring and support, rather than a fixed methodological view of the need for a dependent, controlled and passive learning process.

Of course, these results also indicate that *over four out of ten* students could not appreciate the method at all. One typical student in this group said *"I am so dull I thought it best to be taught like a child"*. Another typical viewpoint was *"...studying on one's own at the centre in the presence of the tutor - I didn't like that system"*. *"Many students left because of that system. They said: 'What's the use of coming if you are not taught?'"* It is fairly clear that the 'method' failed to win over a substantial proportion of students - not the majority, but close to it.

Of course, it is impossible to say what the majority of students were like before being exposed to the programme, but it is unlikely that they would have been quite so varied and open to the idea of learning autonomy had the programme not had a beneficial effect on their attitudes to learning and teaching. In this sense the programme scored a success. One student said *"I feel a better person - broadened with better knowledge"*. Another said *"I understand children better now and know how to meet their difficulties"*. Even more glowing comments came in these words: *"My image of myself has completely changed - I face the public without fear - I am no longer a shy person"*.

### 3.13. Broad Conclusions to this Section

The results presented have given ample indication of a host of practical difficulties faced by the students in pursuing their studies under the project. These were serious in objective terms but made all the more so by



factors in the scholastic background of the students dealt with elsewhere in the report. Suffice it to say that we must remember that many of the students had not studied for some time - *well over 50 percent had completed their own previous studies ten years before enrolling on the project*, and some 17 percent had broken their studies for 20 years. Slightly over 30 percent had attained a Standard 8 (third class) or less, down to as low as Standard 6 in their previous scholastic achievement. Here it should be borne in mind that the academic 'loss factor' is higher with the passage of time among people at the lower standards. In their previous scholastic (academic) achievements, only 5 percent had obtained a first class pass in any standard attempted.

The group, then, has to be seen as one which faced considerable initial difficulties in adapting to the programme. The other conclusions drawn must be seen in this light.

Firstly, it is clear that a slight majority of students were not unappreciative of the method adopted in the programme (with the exception, perhaps, of the group and pair study method). Evidence presented elsewhere suggests that some staff on the programme were far more negative in their attitude to the method than the students. Unfortunately, many of the students who appreciated group study, workbooks and the independent learning method still maintained that tutors should "teach" and not simply tutor.

The support the student group needed (or felt they needed) was not necessarily full-time classroom attendance with a highly directive teacher in a passive learning situation. The support which seems most appropriate is:

- very good, carefully selected and emotionally supportive tutors;
- more frequent contact with tutors; and/or
- contact with people who could make the group or pair learning method more meaningful.

It is important to note that there is more than an indication that in many cases it was not the tutoring method which failed to convince students, but poor quality or uncommitted tutors. It is relevant to consider at this point that the need for assistant tutors was recognised towards the end of the project. Furthermore, the results discussed in this section give clear evidence of great inconsistency in the quality of the tutors they had. Firm suggestions emerging from this section of the study, therefore, are that:

- *tutors should have been more carefully selected for their insight and supportive abilities;*
- *from the outset provision should have been made for assistant tutors or study group leaders to back up the tuition of the more highly qualified main tutors.*

It is acknowledged, however, that at the time the project had little scope for choice in the selection of tutors. The Bophuthatswana education authorities gave the project only four individuals to choose from.

Perhaps the greatest problem was one of *attendance* at study centres. The practical difficulties enumerated in the section cannot be eliminated in a programme running in a fairly dispersed setting with considerable distances between schools, and where houses are small, overcrowded and not provided with electricity. These practical difficulties could have been greatly eased, however, had a much firmer policy been adopted by the education authority as regards extra-mural activities. The implementation of the policy was inconsistent, and it was not only due to school principals, but often to the students' own desires to continue with school choir work, sports and other activities. Clearly:

- *principals must be very clear in their own minds that the education authorities wish to support the scheme by having students relieved of most of their extra-mural duties;*
- *arrangements for this should be finalised early on in the programme in agreement with inspectors;*

- *and, the students should be then instructed as to which duties to relinquish and undertake to proceed on that basis for the rest of the year;*
- *the arrangements should be widely clarified and made legitimate in the schools in which students are employed to prevent a build-up of subtle pressures on principals to start bending the rules.*

As regards the practical difficulties of travelling times and distances, very little can be done, short of some form of selection of students.

Broad conclusions emerging from these results are that, in the eyes of the students, the scheme was beneficial and appreciated; over 75 percent would enrol again if the scheme were continued. From the point of view of participants, the project is of a type which is workable, particularly if some of the problems indicated above could be minimised.

#### SELECTION OF PARTICIPANTS

In the cumulative history on page 21, section 7.4.2., it is stated that *"No selection procedure was followed in the first year but it is clear that in 1976 and subsequent years certain priorities of acceptance or certain procedures of selection will have to be introduced. In general, these should give priorities to students already enrolled in the project and/or those with some subjects already passed; limit the number of students taking each subject at each level; and require proof of their educational qualifications stated on their application form"*.

The important question to be considered is whether there should not perhaps have been selection, particularly rigorously applied in the first year, in order to ease in the implementation of an unusual method of tuition to students with an impoverished educational background. Indeed, it would appear from documents that even in later years there was no attempt to apply any rigorous form of selection based on the ability of students to cope with independent learning. The reason why this issue is important is because when a new method is being introduced, it needs to be supported by *initial success* which would improve the image of the method in the eyes of tutors, principals, administrators and students. The method would then become known as worthwhile and would be less vulnerable to criticism by people who were perhaps expressing an element of "sour grapes".

This issue has to be considered in fair detail. The first question is what the abilities of the students enrolled were? From the results of the sample survey amongst students, as we have already noted, it would seem that over 30 percent had a third class Standard 8 or less. Only 5 percent of the group interviewed had obtained a first class pass in any standards attempted. What this tells us is that there was a wide range of abilities with a strong clustering of students who had obtained second class Junior Certificate passes and some who had one or

two matriculation subjects. Few had demonstrated excellence in their previous scholastic record, and many, albeit a minority, had displayed very mediocre talents in the academic game.

#### 4.1. The NIPR Report on Aptitude Tests Among Students

With a view to ascertaining students' abilities, the project commissioned the National Institute of Personnel Research (NIPR) to undertake aptitude testing among samples of the students in 1976. Due to the Soweto and related scholar unrest, the sampling was inadequate in 1976, so this exercise was again repeated in 1977, finally producing a combined sample of 285 students. The NIPR, on the basis of statistical testing, was able to conclude that the samples could be combined for purposes of analysis, despite certain demographic variations. The results of the analysis appeared in a report made available to the project.<sup>1)</sup>

This report is an interesting and very thorough analysis of the application of and results from 19 different tests covering reasoning ability, special ability, ability with numbers, speed and language ability. Unfortunately, the utility of the report for the project was marred by a rather technical presentation with almost unalleviated use of obscure psychometric terminology; in other words, the report was simply not written in order to be helpful to a group composed of lay people in the psychometric sense. The result of this was that the report was not taken as seriously as it might otherwise have been, and the implications were not as fully considered perhaps as they should have been.

The implications of the results in the report, particularly those derived from an exploratory "factor analysis" of the results, are fairly fascinating and, at some stage, it deserves some form of joint consideration by educational

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1) D H Crawford-Nutt, *"The Assessment of Mental Ability Among Black Teachers in Bophuthatswana"*, NIPR Contract Reports C/PERS257, Johannesburg, July 1977.

psychologists and psychometricians. If they are willing to translate the suggestions out of psychometrese into English, it could be quite useful for SACHED and Turret College in further endeavours in assisting Black students with poor scholastic and educational backgrounds. However, no attempt will be made to extract the more detailed implications at this stage. Here we are concerned primarily with the issue of whether or not selection should have been applied.

In the conclusions to the report, an attempt is made to cluster the testees in terms of their performance across the range of 19 tests; the test being classified into groups in terms of tests of reasoning, space, number, speed and language. From this analysis it appears that 14 percent of the 285 respondents displayed marked general educational and aptitudinal deficiency with uniformly low scores on all test types. A further 24 percent also obtained a low average test score alleviated only by evidence of some ability of a limited kind in working with numbers. Hence, *altogether nearly 30 percent of the people tested displayed what the author of the report would have defined as severe basic educational deficiency.* Some 21 percent of the group displayed a uniformly high performance profile across all types of tests. The remaining roughly 50 percent displayed moderate educational deficiency although different clusters had strong points in different areas of aptitude. These areas of aptitude are not readily equated with guaranteed proficiency in particular subjects in a school course system and therefore great caution has to be applied in interpreting from the test combinations in such a way as to predict success in different subjects; this is a specialised task and will not be attempted here.

What can be said, however, is that in a typical enrolment of students for the upgrading programme, a third or more displayed severe educational deficiencies of a gross kind, and that they entered into the programme severely unprepared for the new challenge of what was to them an unconventional method.

Unfortunately, no attempt was made to relate individual test scores and aggregates to student results nor to the educational background they presented when enrolling for the course. Had this been done, it would have been easier for this author to analyse the association between aptitude scores and student performance on the project, and some fairly concrete recommendations may have emerged as regards selection and perhaps even methodology. In the absence of these linked results, all that one can say is that it is fairly certain that the 30 percent or more with gross educational deficiency, as reflected in the aptitude tests, were the ones that struggled most in gaining mastery of the method of autonomous study and in becoming confident during the course of the project. It would seem to be necessary to eliminate this kind of student in the early stages, at least until the reputation of the method among those applying and administering it has been established, as we have already suggested above.

Looking at the results in the NIPR report in which the test results are related to background variables does not suggest that there is any method of making an indirect selection on the basis of age, or previous experience, or any other readily identifiable variable. In fact, this author would warn against introducing such cut-off points on the basis of age or any other similar variable because of the tremendous overlap between abilities in various age groups; there is an insufficiently strong correlation between aptitude and age or any other variable like sex, previous results, years of experience as a teacher, possession of diplomas of various kinds, etc. to make this possible.

It seems that if selection is to be applied in any future project of this nature, it will have to be *on the basis of aptitude tests which have a proven relationship to ability to deal with the particular kind of method*. It is suggested, therefore, that in any future exercise of this nature, students be rated according to their ability to work independently in groups or pairs, and then in terms of their eventual academic results, and that these indices be compared with the results of aptitude tests administered early on in the year. This will enable a basis to be set for future selection to be applied, at least until the method becomes accepted and less vulnerable to criticism on the part of educational authorities.

#### 4.2. The Need for a Method Tutor

If it is deemed inadvisable, or inappropriate on moral grounds, to apply selection (and this would be understandable since one should strive to give everyone a chance to improve their qualifications), then a project like this has to proceed in the prior knowledge that a fairly substantial proportion of the students are going to struggle very much in a new and challenging learning situation. It is suggested, therefore, that what may have been appropriate for the project in the past (and would be appropriate for any similar project in the future) is for there to be *a specialised tutor available at least in the early stages of the project*, who would be concerned not with the subject, but with assisting students in coping with learning difficulties in the new situation. Such a person would then be able to identify those with the greatest difficulties and suggest alternative courses of action for them, or perhaps even guide remedial attention by the tutors or assistant tutors in order to help them to cope with the method.



It needs to be said that there is no implied suggestion in this that the method is permanently inappropriate for poorer students. In fact, once students of low ability have become accustomed to the method they may very well benefit relatively as much as brighter students, and it may even be possible for them to help overcome their educational and/or aptitude deficiencies by gaining mastery of the method of autonomous learning. In the initial stages of the old programme and of any new programme it must be part of the technical approach of the programme to give some kind of special attention to those students who have severe educational deficiencies if they are to be enrolled in the project along with others more able to cope with a new system fairly quickly. If test-based selection is not possible in a situation in which it is decided to set limits on enrolment, then what can be cautiously considered is to apply selection on the basis of previous results obtained in school. This is mentioned with some hesitation, however, simply because one is aware from the results of the interview survey among students just how severe their practical, financial and personal difficulties were in their earlier school careers. For this reason, one may very well be excluding people who had under-performed because of factors totally unconnected with ability.

## REACTIONS TO THE METHOD AND STUDENT

### ATTENDANCE AT STUDY CENTRES

The method of tuition employed and student attendance at study centres have to be analysed together since without the students' regular attendance the method can have little effect.

#### 5.1. Student Attendance

Throughout the life span of the project the attendance of students was an enduring problem. In the first annual report to the Group Chairman's Fund of Anglo American, the Director reported that regular attendance had dropped from 500 at the outset to 304 by September: slightly over 60 percent of the original total. This was presumably regular attendance and the casual non-attendance was probably a greater problem than the student attrition. In the cumulative history, frequent reference is made to problems of attendance. In a project staff meeting held on 16 September 1977 the general problem of poor attendance at trial examinations and general poor attendance at classes and at study centres were discussed. The following reasons were put forward by members of the project staff:

- a. lack of courage to attend because of non-payment of fees;
- b. fear of examinations; attendance tended to drop off with the approach of examinations;
- c. lateness or non-attendance of tutors or assistant tutors at classes;
- d. students dropping behind schedule in content subjects with consequent discouragement;
- e. resistance of students to the method on the grounds that they wished to be "taught";
- f. tutors' problems in applying the method;
- g. assistant tutors do not know the method thoroughly in practical terms;

- h. feelings of insecurity on the parts of assistant tutors, leading to their non-attendance;
- i. lack of communication between tutors and assistant tutors;
- j. qualities in the psychological interaction between tutors and assistant tutors;
- k. lack of motivation and inspiration on the part of students;
- l. adult students in a different category from school children, with different involvements and different problems, with no incentive at home;
- m. the competing pressure of school activities - music competitions, choir practices and preparation for Independence celebrations;
- n. adult students averse to asking questions and interacting with tutors/tutors are looked upon as being supervisors only;
- o. insufficient writing and testing work;
- p. lack of any reliable technique for monitoring the students' studying and learning activities;
- q. clear inability on the part of students to cope with the work - many of them having only reached Standard 6 level of formal education.

This was an impressive diagnosis made by the project team itself. Certainly this indicates that there was no lack of deeper-lying insights. The problems of implementing these insights were, however, the critical factors, as will be discussed presently.

In the internal evaluator's report in late 1977, it was stated that *"the number of participants represent a very low proportion of the total number of students. Why such poor attendance?"* The evaluator goes on to say that a considerable proportion of students were behind schedule in content subjects, and that only a *"very few"* are up to date.

Nevertheless, "new books are being continually asked for. Why are the students not up to date and why are they asking for new books when they are behind by two or three books?" She poses the question: "What is really happening at the centres and what immediate tactics can be adopted to remedy this situation?" From the minutes of management and staff meetings it is clear that there was a great deal of concern about poor attendance. Notes on individual centres reveal an unsteady attendance pattern with an overall downward trend.

One of the problems in coming to terms with the difficulties in securing high attendance was the fact that in the responses to the student questionnaire obtained regularly throughout the course of the project (and indeed to some extent in our own sample survey results), the students tended to avoid answers critical of the project and of themselves.

In our face to face interviews in the sample survey, their real feelings were reflected only in the form of innuendo or contradictory comments at the end of answers. What appears to be the case with attendance, having considered all the documents and the student replies, as well as interviews with tutors, is the following:

1. Students were under enormous pressure, both formally and informally in some cases, or on the basis of their own interests, to pursue extra-mural activities in the afternoons at their schools.
2. The students themselves in some schools found that they became unpopular with other teachers if they were away at study centres too regularly.
3. Many of the students were struggling with the course work and fell behind schedule, as a consequence of which they felt embarrassed or anxious about attending study centres.

4. Despite saying positive things in the evaluation questionnaires circulated during the project about the group study method and indeed, despite saying positive things about this method, in their replies to our social survey, the students found independent group or pair work in the study centres very definitely a second-best option and were not motivated to attend centres for this purpose. As we have already indicated, many of the students defined for themselves compulsory attendance as being necessary only when tutors were due to visit.
5. A final point, as it will be noted in a later section on tutors, the tutors themselves cannot be absolved from the blame for poor attendance since their own motivation and their own interpretation and the implementation of the method was in some cases seriously at fault. Where tutors like Mr A, the Afrikaans tutor, were quite open about it and adopted their own methods of teaching, the effects were not so great, but as will be indicated presently, some tutors were distinctly half-hearted in their approach to their assigned task and in some cases sat passively while students wrote answers into their workbooks.

Among these reasons, two are probably of most importance; the one being that of student motivation and grasp of the merits of group and pair study. This, however, will be discussed in the next sub-section. The other is the problem of extra-mural duties.

Sincere efforts were made by the project director and the management committee to solve the problem of the pressure on the students to participate in the extra-mural activities in the afternoons. In 1977 this pressure was aggravated by the preparations for independence celebrations. The appointment by the education department of organisers in music, sewing and sport, with a duty to encourage and

establish even more extra-mural activities, and the introduction of a platoon system of teaching, made the problem even worse. Various approaches were made to the department and attention was drawn firmly to the deleterious effect of low attendance on the whole project. After an unsatisfactory response was obtained from the department in 1975, a personal interview was sought with the Secretary of State for Education, to pursue the matter at a higher level. A detailed compromise solution was reached and students were immediately informed by the department and by the project. Although one has to see the solution as being inadequate from the point of view of the project, it provided the basis for somewhat improved attendance for a while. Generally, however, the situation continued to be unsatisfactory.

As will be pointed out later, there were severe problems of communication between the project and the department, with school principals playing a covert role in providing feedback of a kind which undermined the enthusiasm for the project in the departmental head office. One gains the impression that the need to ensure high attendance was not regarded as being of crucial importance and that the sort of people who in any local educational system are supposed to ensure that instructions are carried out, namely the inspectors, were themselves very uncertain of the merits of disrupting other aspects of education for the sake of making the project work. It is our view that until these very basic problems of hidden motives and covert assumptions had been sorted out, the project would not have met with expectations as regards the critical aspect of student attendance.

It is also clear that the more successful participants in the project depended to too large an extent on extraordinary motivation which would not exist in an ongoing scheme run by the department. For example, one administrator/principal started his/her school early in order to make it possible for a large number of teachers to attend study centre sessions.

### 5.2. The Pair and Group Study Method

As already indicated, the students' replies to evaluation questionnaires during the project and even the replies to our interviews in the evaluation survey were ambiguous in regard to the group study method. They indicated quite honestly that they appreciated working in a group or working with a partner. Many of the verbatim quotes indicate that at least a very substantial minority of the students, particularly the brighter ones, rose to the challenge of the method, were even inspired by it and experienced considerable personal and intellectual development as a result of participating in independent group study. Once again, one can refer to some of the quotes: *"One must do one's own research/be independent of teachers or helpers."* *"I had to widen my mind, I was forced to read and so I was helped in two ways - for the classroom and for my own studies."* *"If you don't read you forget some of the things, your mind rusts and you cannot teach the children the right things."* *"We like the method of having a partner because we can be teachers to each other."* *"I learned to understand, not just cram ... I can use the project method even in Sub A."*

These quotes are important because they show without a doubt that the method really was working for a good proportion of the students. However, for another proportion the rewards were merely social and for some, hopefully a minority, the method was something which they praised when asked to give feedback, but which left them rather cold in comparison with the stimulation of being lectured to or "taught at" by a tutor.

### 5.3. Some Conclusions Regarding the Method

Here one must expand on some earlier conclusions: Firstly, the initial period of the introduction in the "method" for new students must be conducted by someone able to instruct them in small groups and supervise them on

becoming accustomed to the method and extracting benefits from it. This will pay handsome dividends in later stages since the more adaptable students will become increasingly independent of personal attention on the project.

Secondly, tutors themselves have to be more convinced of the benefits of the method as a staff group. In order for this to be possible, it is necessary to clearly identify those aspects of their educational task which require formal teaching. This will be referred to in more detail presently. Once these formal aspects are separated out and their need for limited formal teaching is acknowledged, then they would probably be more amenable to adopting a uniform approach in regard to the independent study method.

Thirdly, the administrators of study centres generally did not play a sufficiently active role in propagating the method and in supervising students in their work when project personnel were not there. The project probably requires full-time or near full-time administrators who would be expected to continue working until late in the afternoon or early evening. This would only be possible if special appointments were made. One realises that this constitutes an additional financial burden, but regrettably it does seem to be necessary if maximum results are to be achieved from the project.

We realise that a "study methods course" was held early in 1977 and that the course was considered by all to be a success, but even during the course, various reservations were expressed about the applicability of the prescriptions in the study methods course and the associated book. It is my opinion that while such courses and study guides are very useful, nothing can take the place of intelligent and sensitive supervision of the students' study programme at the study centres. A further attraction would be that if the full-time administrator with academic responsibilities were to be present it would act as an incentive to attract more students to the centre.



A further argument must be presented in regard to group method and since it may be controversial, it has to be carefully reasoned. In an interview between the author and the former director of the project, Mr X, the latter, gave a view of the group study method which indicated the possibility of a cultural problem. He said that African students would hesitate to 'give away' too much of their own knowledge in a group situation, since they would fear 'giving away their work'. In his view, they persisted in withholding full participation in order to hoard certain knowledge for themselves. Furthermore, this author's experience of group discussion approaches to research among many Black people is that very frequently indeed they are dominated by one person with the rest taking a passive role. Passive participants have their say in the end, often using a very subtle and roundabout approach, as one of the project's senior staff members, Theo Derkx, indicated in a letter to the evaluation team, but it takes a good while for the views of passive participants to be expressed. In a limited tutorial this is a great problem.

The tutors mentioned as disadvantages of the group study method the following: one partner will dominate another, or one student may dominate a group; people of differential status will not work with each other, for example principals and teachers; students in a group are often at different stages in their work; a great deal of time is wasted in chatting; fast students in a group are frustrated by the slowness of others; poor students, especially those studying for Junior Certificate, have difficulty in expressing themselves in group discussion; in content subjects, students who have no basic knowledge had nothing to discuss; and, finally, students did not ask relevant questions and needed guidance from a tutor.

These disadvantages were mentioned by tutors after fully acknowledging the advantages of partner and group learning methods, which were listed as the pooling of ideas, greater student involvement, greater student concentration and the emergence of independent critical thinking.

Therefore, one does not suspect that the tutors as a group were unfavourably biased against the use of a group or partner method.

Therefore these disadvantages, as they operated in the situation in Bophuthatswana, have to be taken seriously. If what the tutors and what Mr X said is true, then this is a further indication that a full-time, academically orientated guidance figure be present at the study centres in order to monitor group work, to rearrange groups where necessary, to sit with groups which are encountering problems of group process, and help them to sort it out, to rearrange the incompatible partners or partners that waste too much time, and generally to demonstrate the benefits of the method consistently, especially to the newer students.

There is no intention here to diminish the value of a method aimed at autonomous and independent study. One also realises that *independent group study is the only alternative which is practical* since other options must either involve the students as lone and isolated individuals, or else involve something which begins to approximate to a 'teaching' situation, which is simply too expensive and, for adult students, unhealthy to boot. The group and partner study method of independent learning must be protected and developed. On this basis one has to consider the following:

- 1) *that the role of administrators be placed on a full-time basis and that their activities be expanded to include academic and methodological supervision of the learning activities of students in groups and pairs. (Towards the end of the project a decision was taken to appoint study supervisors at centres, but this was intended to be a part-time form of appointment for people holding full-time jobs.)*

- 2) *One would also like to suggest that those aspects of content courses which involve the need for students to absorb certain concepts rapidly in the beginning of a syllabus be 'taken out' of the independent learning situation, as it were, and made the topic of a limited and demarcated period of formal teaching so that tutors have less excuse to dilute the method of independent study for the sake of coping adequately with particular aspects of a course which may be a relatively small proportion of overall content.*

In these ways we believe the method can be protected and developed most adequately.

#### 5.4. Study Materials

Generally speaking, students were satisfied with the quality of study materials. Their responses to evaluation questionnaires reflected over 90 percent approval rates regarding materials. Certain matters of some concern were the following:

The students themselves seemed aware of and disturbed by the fact that fairly frequently workbooks were late in arriving, although some tutors replied that the students were so far behind in their work anyway that this was of no consequence to them. Secondly in the early stages, students were not satisfied that the workbooks covered the syllabus adequately although their level of satisfaction improved markedly as the project progressed. Even towards the end, however, there was evidence of some anxiety among a substantial minority in regard to the coverage of the syllabus by the workbooks. Thirdly, many students were honest enough to admit that the provision of answers in the workbooks allowed them to copy in answers, especially when they were working on their own at home. A dissatisfaction on the part of some students was that the workbooks, in requiring answers to be written in, gave tutors an excuse to simply sit passively while students were

writing answers into their workbooks. Evidence of this was available in hints from tutors and principals on a few occasions as well.

Generally, tutors and assistant tutors were as happy with the workbooks as the students. The problems they encountered were similar in that they found the slowness of the arrival of some of the workbooks irritating. In certain content courses, particularly Geography, and to a lesser extent Biology, it was felt that the workbooks had to be supplemented by careful teaching in the early stages in order to lay a basis of concepts, so that the workbook could be more adequately utilised later on. It was also felt that the workbook was, in a sense, an outline of the material which had to be supplemented by in-depth explanations by tutors from time to time. The impression the tutors had was that this supplementation was going against the basic principle of the method, hence causing some uncertainty and irritation.

Generally, then, the workbooks were perceived as a very sound educational input and a basic necessity of the course, although neither students, nor tutors, nor assistant tutors accepted that they could ever replace a degree of active teaching or tutoring or lecturing from time to time.

The question arises here as to whether or not the assistance offered by the workbooks could be increased if the principles of programmed instruction were to be more firmly incorporated in the development of basic concepts and ideas fundamental to the content of the course. There is no doubt that the workbooks were adequate, but there is also no doubt that the objections of tutors are valid in the sense that the workbooks needed some supplementation. It is not within my expertise to deliver any final judgement on whether the design of study aids can fully replace the need for some teaching and guided instruction from a

teacher, but I would cautiously express the view that the workbooks could be revised with a view to strengthening the treatment of concepts which are basic to the subsequent understanding of the syllabus and the workbook itself.

Finally, in this regard, it needs to be noted that the project commenced under very severe pressure of time as far as the preparation of study materials was concerned, since, as we already know, the emphasis was switched from junior certificate to senior certificate late in the year before the project commenced. We are also aware that the staff-writers and the research and development section worked under heavy pressure throughout the course of the project, as evidenced by the late deliveries of workbooks on a number of occasions. We are tempted to suggest that it is quite possible that the design of the workbooks and the contents would be improved by the very same departments responsible for their initial production if more time were to be available.

Generally, however, no basic inadequacies as regards the contents and design of workbooks would have existed for the project had it been operating properly as regards student motivation and attendance. The following needs to be considered: *bearing in mind the fact that so high a proportion of students were and would have continued to be of a very low educational standard, while others were clearly quite able to cope easily with the study materials, it should be investigated whether two forms of workbooks should have been issued or be issued in future; one at a normal or higher level and one with supplementary stages and exercises for slower students who could be expected to do the course over two years.*<sup>1)</sup> (The principle of doing courses over two years was established during the project, for example with History.) The final report of the Geography tutor and interviews with others also suggest that it was impossible for many students to stay abreast of the schedule

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1) Many of the students more or less consciously took the courses over two years anyway by "trying their luck" in the first year, failing and trying again. A proper programme over two years would be better.

of work as laid down by the workbooks, and here again a  
'slower level' of workbook is indicated.

## 6. TUTORS AND THE TUTORING SYSTEM

### 6.1. Tutor Selection and Training

#### 6.1.1. Tutor Selection

The criteria for the selection of tutors were roughly as follows. Initially, advertisements were placed, followed by personal contact with the department for additional suggestions of people. Criteria for the selection were academic background (people with degrees were appointed where possible, which was difficult, bearing in mind that only 60 out of 6 000 teachers in Bophuthatswana had degrees, professional qualifications (the tutors had to have teaching diplomas, at least at the level they would be expected to operate on as tutors); personal self-reliance, assessed from lengthy interviews; and flexibility of attitude towards the teaching methodology (it was realised that tutors would have to operate in unconventional ways and that there could not be any strong resistance to alternative or new methods).

It must be borne in mind, however, that very often there was not very great choice in the selection of tutors, since the supply of talent was severely limited.

Although I realise fully the difficulties of finding and attracting adequate talent to tutoring positions in a project like the one being discussed, it does seem to be a pity that a more even level of ability could not have been achieved in the cross-section of tutors. It needs to be considered whether or not wider advertisement and, perhaps, the more active involvement of the department in seconding its best people and in raising their status, would not have produced the even, high level of tutor quality that seems to be desirable. In this regard it should be borne in mind that the assistant tutors appointed later were better in some cases than the senior tutors - talent does seem to be available. This would suggest that selection should have been more on merit without undue emphasis on seniority.

#### 6.1.2. Tutor Training

After selection, the training of tutors represented a definite area of weakness of the project. In December 1974 there was a ten-day training course for the four tutors who had already been recruited. In effect, after some concentration on the administrative system, only a week was devoted to tutor training in the methodological sense and in matters related to subject treatment. During 1975 there was no tutor training at all, apart from fairly lengthy discussions on tutoring which were incorporated into the Hammanskraal review meeting in November of 1975. During 1976 there was once again no specific training for tutors, although newly-recruited tutors spent time with Robin Lee. In that year, again, there was discussion of tutor methodology at the annual review meeting, and here the discussions were somewhat more thoroughgoing than at the previous review meeting. In 1977 refresher courses were organised for tutors, which took the form of tutor training to reinforce the role of the tutor in an independent learning situation as opposed to classroom teaching. Thus there were two formal training sessions for tutors, plus review meetings. *Tutors themselves felt that this was not sufficient and that they needed more training.*

#### 6.1.3. Tutor Guidance and Communication with Tutors

The next question that arises concerns the kind of on-going guidance to tutors as regards the methodology. It is clear that there was quite considerable pressure on the tutors to 'tutor' rather than 'teach', in the sense that tutoring as an approach was built into the study materials, writers and consultants used to exhort tutors not to teach in the conventional sense whenever they visited tutors, and the fact that students were involved in an independent group study method meant that this in itself defined a certain kind of role for tutors.



There was constant pressure on tutors in many informal ways to observe a certain kind of approach in their interaction with students. This pressure was sufficiently pervasive to convince some tutors, two in particular, that the attitude of Turret was *"rigid, uncompromising and destructive ... destroying the pupils' hopes of ever making the grade"*. These are the words of one of the two tutors, who went on to say that the method simply becomes a *"subtle way of spoon-feeding, at great cost to the students"*. This particular tutor felt so strongly about what he termed the *"pedantic adherence to the method"* that he felt that someone who should be nameless was using it as part of a masters degree at a university. (This is a reference to Mr David Adler's academic interests in the project; interests which were far from destructive and in fact contributed an enriching element to the whole programme.) One can accept that the tutors felt under some pressure to adopt a particular method. I am not convinced, however, that they understood what the pressure was all about. Although there is considerable overlap in the way the tutors perceived the aims of the project, there are also a number of striking individual differences which emerge from the detailed personal interviews with tutors. To illustrate these differences I will quickly describe the perception of each tutor regarding the method:

Mr A: This tutor saw the pressure to implement the method as rigid and uncompromising, and his words have already been quoted above.

Mr B: He saw the method as intending to provide motivation for students and he saw the role of the tutor as one of reassuring students that someone would help them.

Mr C: He saw the aims of the project as encouraging students to work on their own and to allow the method of independent study to "filter through" to the students' own classes in their own teaching methods, to utilise existing classrooms so as to *"get a good*

education at the cheapest possible price" and to provide a combination of correspondence and day school tuition.

Mr D: Described the method as "distance teaching" with the main aim being to focus on problem areas and let the students do their own work in small pieces. He grasped the essential element that it *"leads to independent learning at a higher level than classroom teaching"* and acknowledged that the results in some subjects were better than those of full-time students.

Mr E: Said that the aim was to motivate the students and to instil an independent way of studying. This tutor felt that *"it could be the best method if it were taken to be a universal method"*.

Mr F: Was strongly opposed to the method and his reaction against it was so strong that it had been one of the reasons for his resignation. He felt that the project merely wanted tutors to *"control workbooks"* and, whereas the method might work for those doing a degree, it was inadequate for those *"coming fresh into a subject"*. He said he had formed his own teaching method which he used from the start and which he had told the project about. However, he felt that pressure was put on him to comply.

Mr G: He saw the method as that which would enable students to be independent in the learning process and was happy about these aims, but was unhappy about the part that tutors were expected to play. Like Mr F, he perceived the tutors' role to be one of merely checking work which students had completed; *"I didn't like a tutor to be a machine or a tape recorder. That means the tutor is useless - there is no point in him getting paid."* He felt that tutors should prepare a lecture and teach. He pointed out that the conflict

over the role of tutor resulted in internal disagreements between tutors themselves and had led to *"the whole project ... declining ... the spirit which prevailed between the tutors and the authorities in Johannesburg was destroyed"*.

The results of interviews with tutors indicates that two tutors were strongly opposed to the method, one supported the method as far as students were concerned but disagreed strongly with the tutor's role, one tutor had a firm view that tutors were necessary as *"live people to motivate students and to provide them with emotional support, especially in the beginning until their confidence grew, and that therefore the method should not be applied to the point of limiting the tutor's role"*, one tutor saw the role of tutors as being to provide help on demand for students, leaving two tutors who seemed to be fairly firmly in favour of the method and even of the implications that the tutor's role would gradually be reduced.

All the tutors except two saw the *students* as being opposed to the role of the tutor as defined by SACHED, and really wanting more active teaching and lecturing from the tutors. Virtually all the tutors felt under some pressure from the students to respond to this need. As regards actual methods of tuition used by the tutors, it would seem that only the Tswana, English and Geography tutors made any effort to distinguish between nuances in the method appropriate to their subjects. The Tswana and English tutors made an effort to modify and adapt the project method to meet the needs of their subjects, while the Afrikaans tutor (Mr A) substituted his own methods for the project method. The Biology tutor appears to have been immobilised by his perception of the shortcomings of the project method, and this would seem to apply to the History tutor as well, although the latter did introduce some of his own modifications; in his words, he

attempted to "blend teaching with tutoring so as not to discourage students from coming to the centre". The Biology tutor's perception represented a serious problem since he felt that what he was expected to do was to "watch students reading workbooks and to answer questions" and therefore "if they ask no questions I have no job".

Specifically, the methods mentioned by each tutor as their approaches were:

English: Pair and group discussion. Use of tapes. Written question and answer (workbooks). Summarising common problems.

Tswana: Pair and group discussion. Use of tapes. Self study for simple areas; more help and teaching in difficult areas.

Geography: Pair discussion. Active participation of students in reading and responding. Students working at their own pace, and then bringing difficulties to tutors.

Biology: Watching students reading workbooks and answering questions.

Afrikaans:

Mr B: Introducing the subject matter, checking and solving problems while students work.

Mr A: Written assignments devised by himself and done in class, emphasis on the spoken language. Tape recordings integrated into lessons.

History: This tutor did not specifically describe his methods since he rejected the project method so strongly as being "an umbrella imposition of a method with no special adaptation". One must assume that he developed a form of teaching around the topic areas in the workbooks.

What emerges as very clear from the answers received in the tutor interviews is that the project lacked coherence to a serious degree as regards communication and understanding between the project staff in Johannesburg and tutors in the field, as it applied to the method of teaching. One simply cannot see the contradictory answers that emerged from tutors and the significant rejection of the method on the part of three or four tutors as being evidence of the right kind of throughput from course writers to student learning methods. It would appear as if this conflict was never fully expressed, confronted and dealt with in the project planning.

Similar problems arose in regard to the workbooks which involved the "read and answer" test method. Generally the tutors saw the books as being well-written and appreciated that they progressed from simple to more difficult materials. They did have a number of critical comments, however. One tutor said that they were not adequately tested before being implemented in the course. Other critical comments were that the workbooks were memorised through rote learning, but that concepts were not understood, that some of the material for testing of the students' comprehension of the contents was too easy, leaving the students vulnerable in the exams, that multiple choice answers were inadequate preparation for senior certificate examinations, that answers were merely copied from workbooks, leading to students not doing any work by themselves (one tutor described the issue of workbooks and answer books simultaneously as "*destructive - the students become parasites on answer books*"), and finally that the presence of workbooks meant that students felt no need for text books or reference books.

In regard to use of tapes as a study aid, two tutors felt that they were useful, assisting with good intonation and pronunciation in English, and that they increased student enjoyment, but one tutor was vehement in saying that students tended to depend on the tapes rather than reading prescribed books.

Here again, it appears that there is a remarkable amount of disagreement about the merits and demerits of the project method. We have already referred to the fact that some of the tutors regarded the workbooks as too skeletal in outline, requiring supplementary introductory lessons at the very least.

The lack of coherence in this aspect of the project - the lack of fundamental consensus on method between head office and the tutors - contained the very real danger and indeed the probability that the motivation of tutors was undermined, and that confusion over or resentment at the method led to an inconsistent quality of tutoring; worse still, in at least one instance, it may have led to an active undermining of the project behind the scenes. When the former director was interviewed, he took a strong position in defence of the tutors being allowed to formulate their own approaches in consultation with head office consultants, whom he felt had to be more flexible and understanding of the problems in the field. He expressed the view that the difficulties encountered over the method were "*fundamentally alienating*" of the field staff. The Geography tutor in his final report indicated that his modifications of the method "*alleviated the frustration that was building up in me, namely being redundant*".

One could also suggest that the problems referred to here are an important fundamental cause of the students' extremely variable assessment of tutor quality, which we have already concluded was a severe problem affecting attendance and perhaps even performance in the final examinations.

In the evaluation questionnaires submitted to students in 1976 and 1977, it appeared quite clearly that, although students were generally very flattering of all aspects of the project, the tips of problem-icebergs appeared in the sense that significant minorities of students felt that tutors did not understand their problems, were not aware of their difficulties, and were very often not well prepared.

The evidence obtained from these interviews, the reactions of students and the variable reputations of tutors, and also a certain dissatisfaction which individual course writers experienced with the work of tutors suggests very strongly that there should have been much more intensive training of tutors during which:

1. The tutors should have worked systematically through pre-prepared workbooks with the course writers (one realises that this was not possible in the early stages of the project, but it could have been done in the second year of the project).
2. The method was debated much more fully than appears to have been the case.
3. This training session should have been followed by a fairly lengthy review session after a set period of, say, two months on the project, at which the tutors could have brought back as a group their difficulties with the method and in which some kind of compromise could have been negotiated. One realises that the firm intentions underlying the particular use of the method may not have lent themselves to a compromise at so early a stage, but in the long run the method suffered more as a result of a lack of compromise, openly discussed, than it would have as a result of an earlier compromise. The tutors should then have

There are two additional reasons why even this higher figure of R400 000 may not represent the true cost of the project. Firstly, it is certain that there were some money costs which are not reflected in the project's own expenditure figures. For example, some of the SACHED staff devoted a good deal of their time to the planning of the project *before* any attempt was made to record the costs. Similarly, the figures do not include at least some of the costs incurred by the Anglo-American Corporation and the Bophuthatswana Government, particularly the time of their officials who were involved with the project. Secondly, there were various social costs which represent a cost in terms of real resources, but which cannot be quantified in money terms. For example, conflicting demands on the students' time resulted in poor attendance at study centres during much of the life of the project. To the extent that attendance reduced participation of students in the extra-mural activities of their own schools, and assuming that such activities are worthwhile, then this represents a very real 'cost' of the project, but one which is not included in the money costs recorded. Similarly, if part-time study reduced the time and effort put into the preparation of lessons for their own pupils, then this too represents a 'cost' of the project. There is no way in which such costs can be adequately measured in money terms, but they should not be forgotten when any project of this sort is being evaluated.

Table 3 indicates the extent to which actual expenditure deviated from the budget estimates. These deviations were quite considerable, but the over-spending of 15% in 1976 was more than counter-balanced by the under-spending of 18% in 1975 and 10% in 1977. The available evidence does indicate that the budget functioned effectively as a financial yardstick against which to measure progress.



Table 2 - Breakdown of total cost of BTUP  
(by type of expenditure and year):

	1974		1975		1976		1977 Jan/June		Total	
	R	%	R	%	R	%	R	%	R	%
Capital	-	-	19088	20	12984	10	3234	5	35306	12
Salaries	2000	49	23495	25	46758	36	20950	33	93203	31
Materials	-	-	29080	30	38574	30	23825	38	91479	30
Travel	700	17	6231	7	10692	8	5348	8	22971	8
Other	1420	34	17706	19	19482	15	9969	16	48577	16
TOTAL	4120	100	95600	101	128490	99	63326	100	291536	100

Notes

'Salaries' includes salaries of BTUP staff and payments to part-time markers, but not payments to Turret and/or SACHED in respect of secretarial, record-keeping and administrative services.

'Materials' means the cost of student workbooks, including a small proportion for non-study-centre students.

'Other' costs consist mainly of administrative expenses, including those of project offices, study centres and summer schools, and the cost of internal examinations.

It should be noted that the 1974 figures in these tables are based partly on actual costs and partly on budget estimates. All other figures listed are actual expenditures. Equivalent figures for July/December 1977 and for 1978 are unavailable, but the total expenditure in 1977 was R128 551, and considerable expenditure was incurred in 1978 in respect of non-centre students, so the total cost of BTUP might be something of the order of R100 000 greater than the figure in these tables, which would bring the final total to approximately R400 000. The percentage figures are unlikely to be greatly changed by this additional sum.

In the light of the experience of the first two full years of the project, the budget for the remaining years was revised early in 1977, and this revised budget provided the basis for financial reporting in 1977.

#### 11.2. Total Cost of BTUP

It may first be useful to set out just how much BTUP did cost over the whole period of its operation. Tables 1 and 2 summarise the total cost of the project, firstly by budget category and then broken down into various other categories which may be more comprehensible to readers not familiar with the budget.

Table 1 - Summary of total cost of BTUP  
(by budget category and year):

	1974		1975		1976		1977 Jan/June		Total	
	R	%	R	%	R	%	R	%	R	%
Pre-project	4120	100	-	-	-	-	-	-	4120	1
Capital	-	-	19088	20	12984	10	3234	5	35306	12
Annual Fixed	-	-	40307	42	65875	51	36883	58	143065	49
Annual Variable	-	-	33619	35	44131	34	21509	34	99259	34
SACHED Fee	-	-	2586	3	5500	4	1700	3	9786	3
TOTAL	4120	100	95600	100	128490	100	63326	100	291536	100

#### Notes

'Pre-project' costs are those incurred before the project formally started, and consist mainly of salaries and administration costs.

'Capital' costs consist mainly of vehicles, furniture, equipment and libraries.

'Annual Fixed' costs are those recurrent costs which are unaffected by the number of students and consist mainly of staff salaries.

'Annual variable' costs are those recurrent costs which vary with student numbers and consist mainly of study materials.

The 'SACHED Fee' (originally listed as 'Turret Fee') was a payment to SACHED in return for the services to BTUP of SACHED Trust staff, and was calculated at a rate of 2½% of the funds administered by BTUP.

single largest cost of education (salaries) to a reasonable proportion of the total expenditure, and concentrates instead on 'capital' items such as study materials and equipment, which actually decrease in cost as the number of students increases. First and foremost, then, ... the detailed budget and accounting procedures are designed to provide statistics that will prove or disprove this hypothesis - or, at least, show accurately where the money went." (5)

In late 1974, a detailed budget for the project was worked out for each year of its intended operation, with carefully defined categories of expenditure, and a distinction between 'fixed' and 'variable' costs. Quarterly report forms (forms CF 1(a) and (b) were then devised to provide a convenient procedure for recording and monitoring expenditure on a regular basis in terms of the budget categories. These documents (the budget and quarterly report forms) have provided the basic data for the current evaluation exercise in a most convenient way. Those who were responsible for this aspect of the project at its inception are to be highly commended for the foresight shown in designing such a useful procedure for subsequent evaluation purposes. Unfortunately, however, the quarterly reporting procedure appears to have been discontinued in the second half of 1977 and, although a total expenditure for this period is known, it is not available broken down by budget category as in previous quarterly reports. It should be noted that in addition to the quarterly reports, expenditure each year is also recorded in the income and expenditure statement in the audited Annual Financial Statements, but this source is less useful for evaluation purposes since the categories of expenditure listed are different from those used in the budget and the quarterly reports.

and with better grades, relative to those undergoing formal education and those studying part-time through other channels. It was noted that "it would seem that a quantitative viewing of exam results is essential for the project to be cost-effective" (3).

It was envisaged that the cost-effectiveness would arise from three types of 'savings' which could be achieved in BTUP but not in conventional formal educational programmes:

- "1. saving on the major recurrent cost of traditional educational systems, namely teachers' salaries, by concentrating on student self-instruction from carefully-prepared materials. Expenditure is shifted away from this labour-intensive aspect of education, and a portion of the funds is invested in developing and producing materials that actually reduce in price-per-unit as the number of students increases;
2. saving achieved by establishing the project in a "symbiotic relationship" with existing institutions and services, and drawing upon any available under-use in these areas; for example, use of existing buildings when not in normal use to save building costs in the project;
3. a large "saving", difficult to quantify, which accrues to the individual students and to the economy generally by keeping the students economically and professionally productive during part-time study."

In order to provide a procedure for monitoring costs and the data on which the achievement of the cost-effectiveness objectives might be judged, an elaborate budgeting and accounting system was set up. "This project is designed to be cost-effective in the sense that it reduces the

## 11. THE COST-EFFECTIVENESS OF BTUP<sup>1)</sup>

by D C Taylor

### 11.1. Aims and Objectives Relating to Cost-Effectiveness

'Cost-effectiveness' is a term which is widely used but widely misunderstood, though this is not surprising given that there is no universally accepted definition of the term (1). What analyses of cost-effectiveness generally have in common with each other is that they seek in some way to relate the costs of a programme to the achievement of its stated objectives in order to provide a basis for a judgement of the value of the programme.

This paper seeks to summarise and interpret some of the available data relating to the costs of BTUP and to make evaluative judgements on some of the cost-saving features of this particular programme. 'Effectiveness' is a relative term, and some of the evidence reviewed will seek to compare BTUP with other somewhat similar programmes elsewhere as well as with some of the alternative ways of achieving the same objectives.

When BTUP was started, two main aims of the project were identified (2):

1. "To develop a system of 'supported distance teaching and learning' which is educationally sound and cost-effective."
2. "To provide opportunities for teachers in Bophuthatswana to study for and pass Junior and Senior Certificate examinations."

When these objectives were later reviewed because of doubts which had been expressed about the importance to be attached to examination success, it was agreed that the aim should be for BTUP students to pass their exams in larger numbers

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1) Mr Taylor was requested to contribute a chapter on the cost-effectiveness. His chapter is included unaltered under his own name.

which would serve as early warnings of problems of communication and misunderstanding between groups and individuals. The evaluators on the project maintained that available published evaluation procedures at the time did not guide them in the direction of informal, qualitative feedback. It is surprising, however, that the poor quality of the responses in student questionnaires did not guide the evaluation in that direction anyway.

Further, there is great value in Dr Lee's suggestions that a student achievement "backfeed" be developed, that a student-tutor interaction analysis be instituted, and that the course materials be rigorously evaluated in terms of the skill with which basic and pivotal concepts are introduced to students and the extent to which students are forced to acquire an active understanding of these concepts in approaching areas of course content which may otherwise be subject to rote memorisation. The course materials should also have been critically evaluated in terms of how well they met the powerful informal goal in the project of encouraging independent, critical thinking and creative association within the field of course content.

into problems which was necessary in the programme. Positive endorsement rates in the high 80's and 90's were typical responses to the 50-item questionnaires, and in order to detect problems one has to look at the emergence of "tips of icebergs" in the form of small but significant minority dissent. The students were generally very grateful for the opportunities for study being afforded them and, as is often the case with non-urban respondents, they may have shown their gratitude by being unwilling to criticise the project openly. I certainly found this to a considerable extent even in face-to-face interviews in our own social survey, and very careful probing for an ear for innuendo and hints managed to provide the critical insights. The opinion questionnaires were rather too "transparent" to the students and should perhaps have been more cunningly designed to elicit more fleeting negative associations.

In general, it is clear that verbatim reports provided by the regular evaluators provided enormously valuable insights at various committee meetings and review sessions but for the development of the programme it would have been helpful to have much of this reporting recorded in an easily consulted volume, and perhaps even summarised to display trends over time with the use of diagrams, graphs and other visual techniques for easy distribution to all members of head office staff and staff in the field. Current evaluation practices in SACHED have in fact followed this more formal pattern of systematic reporting.

If the project is to continue in any form, it is necessary that the evaluation team, in addition to opinion questionnaires, at least make sure that it has among its members one or two people who can travel around, communicating informally with key actors both in the project and in the surrounding environment in order to "dig the dirt" as it were; i.e. to provide informal feedback of various kinds

questionnaires and the results. I have also referred to the report by the NIPR, which was adjudged as somewhat off the main point in the sense that it did not provide the direct guidance to course writers which was expected of it. Certain useful documentation was also prepared for the author by one evaluator, Ms Singer, which provided some fairly deep insights into the running of the programme in the administrative and organisational sense.

I have not seen copies of the reports on administrative evaluation given to the management committee, however, nor have I been able to look at any analysis of tutor-student interaction based on a matrix analysis. Since I am not an educationalist in a professional sense but rather a social scientist trained in research and organisational analysis, I would have leaned heavily on the conclusions of any analysis and evaluation of the course materials along educational lines. I am also convinced that had a series of reliable, brief achievement tests in each subject been available to measure the educational effect of courses, it would perhaps have reduced the need for trial examinations which proved to be a disruptive element for students and tutors (although obviously experience of examination writing conditions would have had to be provided in some way).

It would appear to me, then, that much of the evaluation work which was intended in the early stages was not done. The student opinion questionnaires, while showing useful shifts over time, appear to have suffered from a certain kind of response "halo effect"; students were generally far too uncritical of the project. By saying this, I by no means intend to suggest that the value of the project to the students was any less significant, but simply that in some ways the results of the student opinion questionnaires are too reassuring to offer the critical insights



#### 10. PROJECT EVALUATION

In the paper by Dr Lee in 1976<sup>1)</sup>, it is stated under point 3 ("*Evaluation of the Project*"), that the evaluation programme was to be composed of the following elements:

1. An ongoing administrative evaluation with regular consultation by the evaluators with project staff and formal and informal reports to the management committee.
2. The development of reliable student opinion questionnaires; after three trials during 1975, a reliable 50-item questionnaire had been standardised for 1976.
3. The analysis and evaluation of tutor-student interaction using a matrix derived from Flanders in 1970.
4. An analysis and evaluation of material used, applying the scheme developed by Eraut, Goad and Smith at the University of Sussex.
5. The research project, in conjunction with the NIPR, into the general intellectual abilities of the annual intake of students.
6. The development of reliable and objective achievement tests in each subject to measure the educational effect of this sort of course.

Dr Lee goes on to say that one of the aims of the evaluation programme was to develop appropriate methodology and in this the programme was making use of various expert reports.

It is possible that much of the evaluation documentation could not be traced and therefore could not be supplied to the present author, but it would appear as if not all of these objectives were attained in the subsequent years. Certainly, I have been able to study the student opinion

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1) R Lee, "Distance Learning and Teacher Upgrading : A Project in Operation : 2".

be redirected to the project management rather than to the educational authorities directly, if this is possible. I was impressed, however, that a substantial proportion of principals took a great interest in the project, stated that they insisted that their staff pursue their studies and maintain their reading and were generally supportive of educational development in Bophuthatswana, even if it meant inconvenience to day-to-day running of the school system.

#### 9. THE ROLE OF THE PRINCIPALS OF SCHOOLS

For reasons of brevity and because many of the comments of principals in their interviews overlap those of other classes of respondents, I will not discuss the interview results in any detail. Suffice it to say that of the nine principals interviewed, at least three gave an indication either directly or indirectly that they resented the effect of the project on their schools, or that it caused tensions between participating and non-participating teachers. One principal went so far as to actively forbid any teacher from attending the nearby study centre, since it had created great disruption among staff at his school. Although tutors rated principals as good and generally co-operative, certain problems were mentioned. Among these was personal jealousy; three tutors mentioned that the principals felt threatened by either their staff participating or by having to participate with their staff on the project. It is possible that principals expected preferential treatment when they attended sessions. Tutors reported that some principals had been enthusiastic initially but had lost enthusiasm rapidly when the study sessions were seen to clash with school activities, and in some cases discouraged students from attending. One tutor also mentioned that some principals had a problem with 'truant' teachers who were released from duties to attend the project but never did so.

I have no hard evidence to suggest that principals were a significant factor in undermining the project, but I can state that there were probably sufficient principals who were threatened by the project to feed back highly negative information to the education authorities. It is suggested that if a project were to be resumed, an active programme of communication with principals about their problems be established so that any negative communications can at least

considerable commitment, and I am not convinced that this commitment can be fruitfully expanded, say to include more active encouragement of student attendance, on a purely part-time basis. I return here to the suggestion that it may be necessary to expand the administrator role into a full-time or near full-time one, to build into it much more academic content, of the type envisaged for the part-time educational supervisors who were due to be appointed just before the scheme closed, and to improve the remuneration appropriately. It must be observed, however, that the role of administrator seemed to be developing fairly well, even under difficult circumstances relative to rather poor beginnings.

While the administrators refused to concede that there were tensions in their schools because of their teachers attending the programme, five administrators indicated that there were practical problems and difficulties attendant upon the scheme such as the need to adjust to a timetable (starting school half-an-hour earlier), the disruption of extra-mural activities, the disruption of pupils' study time, lazy teachers being exempted from extra-mural activities on the pretext of being students, and students collecting materials during school hours. Other practical difficulties which faced them were workbooks arriving late from Johannesburg (mentioned by six of the administrators interviewed), transport problems of students and students arriving to collect workbooks or library books at odd times. There were the usual problems in the issue of library books.

When administrators were asked about other schools they indicated that they were aware of tension between headmasters and their teacher-students, and between teachers participating and teachers not participating. Here is evidence, at least obliquely, that such problems and tensions did exist at a significant level.

The picture of administrators' diligence and enthusiasm is somewhat clouded by the fact that tutors reported the co-operation they received from administrators as only "*fairly okay*". All the tutors qualified the reports they gave of co-operation they received to some extent. Their most concrete complaint was about the issuing of workbooks, and the other complaints were concerned with general but not serious inadequacy of administrators' task performance. One tutor mentioned that in certain centres where women were administrators, the performance was excellent.

In conclusion, I would like to remark that for a busy headmaster to take on the kind of task which we have outlined as being typical of administrators, represents quite a

In the schools at which administrators were principals, very substantial proportions of the teachers in fact enrolled in the project and there is every indication that the administrators encouraged this. Administrators generally denied that there were any tensions and problems between participating and non-participating teacher-students, but this evidence cannot be taken at face value since there is more than a suggestion that participating students were placed under various kinds of pressure because of participating in the project. I must emphasise that this pressure did not come from administrators. In mentioning negative points of the scheme, only one administrator mentioned that school work suffered because teachers devoted too much attention to the project and that as a result principals discouraged attendance. Here, then, in a fairly direct way, administrators were once again displaying their general support for the project and willingness to make sacrifices.

The critical role of administrators was to encourage attendance at the centres. All the administrators claimed to have been concerned about irregular or poor attendance and all said that they at least offered verbal encouragement to students to attend. It seemed that six of the administrators interviewed actively used the registers to check on or encourage attendance, one threatening to withdraw students from the project if they did not attend, another refusing to give students study material unless they attended, one spending roughly 15 minutes in each session checking the roll and awarding a merit symbol to daily attenders, or making other concrete gestures of encouragement in similar vein. The administrators seemed convinced of the value of attending study centres and with one or two exceptions extended this encouragement to attending study centres when tutors were not there. One administrator even went so far as to call a meeting in order to discuss the advantages of attending study centres.

materials, collection of fees, stock-keeping, enrolling students and keeping attendance registers. Beyond this minimum, further duties mentioned by some were preparing classrooms for students and tutors, seeing that work and tasks for tutors had been done or collecting tasks to hand to tutors, passing on complaints from students to tutors, and supervising tests. One or two administrators even kept extensive progress reports, checked on the way tutors conducted lessons, provided sleeping arrangements for tutors and saw to refreshments.

In the light of these duties, it is not surprising that a majority of administrators felt that their pay was insufficient. In particular, they complained about the large number of students at some centres, travelling expenses for which they were not refunded, difficulty in the distribution of workbooks, and coping with the finances of the centre. The administrator at Thabiso summed it up by saying: *"The whole process was too much!"*

There appears to have been a fair amount of altruism in the administrators because when asked if they would volunteer their services again in a new scheme, only one of the administrators interviewed indicated uncertainty of accepting the post again. Some said that they would rejoin if there was more pay, or *"better teaching"* on the part of tutors, but the remainder said that they would rejoin if they felt that they could be of service.

Only one administrator appeared to have done nothing special to attract students to the course, whereas all the others reported taking concrete steps to encourage enrolment and to publicise the project, such as encouraging students to bring their friends along, holding meetings to explain the advantages of the project, approaching individual teachers, contacting the circuit inspectors to help promote the project, or making other gestures on behalf of the project.

specific mention should be made of one particular aspect of this problem. This concerns the fact that many of the complaints concern the misuse of funds or the illegal sale of books for private benefit, or the organising of complaints against tutors. A senior official in the department stated categorically that administrators embezzled funds. While financial dishonesty cannot be condoned, it must be recorded that the administrators initially were receiving remuneration of either R25 or R30 per month for what were fairly onerous tasks. Although they did not complain very vociferously or openly about this, a lot of evidence suggests that this was a severe cause of bitterness, possibly justifying in their minds the fiddling of the books here and there. The initial low pay in relation to that of tutors may have engendered a great deal of resentment of a covert nature, leading to the manufacturing of complaints about tutors. While one can be gratified that the centres were running more smoothly towards the end, the rates of pay for administrators, even when increased to R45 in 1977, remained too low in relation to the tasks expected of them, and I must record the view that the order of payment for this role be revised in any subsequent scheme.

#### 8.2. The Administrators Themselves

Early in 1977 an administrators' course was held in Rustenburg involving a special training seminar. The aims of the course were to familiarise the administrators with the methodology of the project, to define their role and to facilitate centre administration by developing a system whereby administrators could keep adequate records. From all appearances the content of the course was sound and it proved to be a success. This course was essential - in fact a minimum training input - because, from the interviews with administrators, it would appear that their duties involved at least receipt and distribution of



the students re-located. At Thihe there were complaints of poor administration and very poor attendance, and in fact here again students were transferred. At the centre at Thabiso there were reports of severe transport problems affecting attendance. Complaints of poor administration were directed at the centre at Reitumetse. No particular evidence was picked up regarding two other initial centres.

It would appear that by 1977 certain improvements in the quality of administration and the general running of the centres had taken place and this was reflected quite dramatically in the change in the responses of students to an evaluation questionnaire distributed in 1976 and 1977. For example, complaints about availability of library books in centres generally dropped from 42 percent of respondents to 26 percent of respondents, and a similar order of shift occurred in regard to the approachability and co-operation of administrators.

The library book issue and the issue of the approachability of administrators is an instance of where the project was able to respond effectively to feedback from participants.

It does seem that initial difficulties were being overcome and after some administrators had to be dismissed, more effective people were put in their place, often women principals who seemed to be more diligent than their male counterparts.

If any conclusion can be drawn from the early experience of study centres, it was perhaps that a smaller number should have been started initially and that expansion should have been more gradual.

However, luckily, the problems appeared to be overcome in most respects and the system of study centres appeared to be working fairly well.

## STUDY CENTRES AND ADMINISTRATORS

### 8.1. Study Centres

At the outset of the project, six study centres were identified. Each was to have 80 students, which was later raised to 100 because of geographical factors. The following year, three more study centres were established and the project successfully resisted considerable pressure from the department to establish even more centres, this time in rural areas. This was indeed fortunate since the immediate expansion after one year from six to nine was in itself a very courageous, if not daring undertaking in a project which was very newly established and in which there were numbers of problems to be ironed out.

In the initial stages many of the study centres were plagued by difficulties. In one centre, Bogosi, which was closed for logistic reasons, the administrator continued to register new students long after the closure had been formally decided upon and the administrator had been informed - actions which appeared to have been in fairly direct defiance of the project administration. In one of the major centres, Memorial, there were very systematically organised complaints from a substantial group of students, the complaints relating not to the centre as such, but to the students' perception of the quality of the tutors. The way in which the complaints were organised suggested that there was some ulterior motive behind it, although the administrator did not appear to be involved. There were other complaints made to the project administration relating to the administration of the centre at Memorial, however, and eventually the administrator was dismissed, ostensibly on grounds of ill health. At the Batswana centre a great deal of disturbance was encountered because it was a boarding school - very noisy and disruptive - and in fact the centre had to be closed and

Regrettably the way in which the assistant tutors were introduced must be recorded as a fairly severe weakness in the running of the educational programme, since their orientation was likely to have had a very great effect on the morale, confidence and performance of students.

In parenthesis, it needs to be noted here that, according to some senior officials in the department, some assistant tutors, even without training, were better than senior tutors. This is perhaps an additional comment on the quality of some of the first tutors selected and on the selection process.

Five of the ten assistant tutors interviewed felt that their training had been inadequate and five of them also indicated quite clearly that they could not employ the methods that they were supposed to.

In general the assistant tutors were satisfied with their conditions of service and with their pay, but in this regard it must be remembered that they were part-time employees paid on an hourly basis and that the strain of their work was nowhere near the equivalent of that of the senior tutors.

One cannot help reach the conclusion that the introduction of assistant tutors was a step taken without the necessary training and instruction as regards their role. Although the assistant tutors seemed a confident, contented and happy group of people, and were undoubtedly serving a good purpose in providing students with more of the individual attention they so badly wanted, one saw very clear signs of a lack of a clear orientation as regards methods of tuition.

To be quite fair, I did encounter a one-and-a-half page document issued by the then director entitled "*Some suggestions about the Assistant Tutors System*" which was directed at tutors and which set out certain broad principles that they should adhere to in instructing the assistant. However, this kind of approach can hardly take the place of rigorous training, involving simulation and intensive discussion, followed by review meetings to assess problems encountered in the field. Perhaps it was intended that the new educational supervisor at each centre should undertake more detailed instruction, but since the post of educational supervisor was a strictly part-time post intended to occupy only three afternoons a week there would hardly have been time in the range of duties for any intensive training of assistant tutors, and besides which the new incumbents would have been unaware of some of the detailed problems themselves.

he used classroom teaching procedures throughout. Three of them emphasised the importance of good introduction or of good teaching by the tutor in the initial stages in order to launch the students on the workbooks. The assistant tutors experienced the same problems as some of the tutors with regard to the content of the workbooks, namely lack of depth and inadequacy of explanation.

As with the tutors, the assistant tutors felt that the students themselves appreciated some form of teaching, or being given explanations. Some of the problems of lack of adequate initiation appeared to have quite serious consequences. Five of the ten assistant tutors that were interviewed said that they were *not aware of the existence of work schedules*, for example. (Two more were *possibly* not aware of the existence of study schedules.) Those who knew about schedules gave more or less the same reactions to these as tutors.

Another aspect of the lack of initiation and training appeared when five of the assistant tutors interviewed stated that they *had never met any of the course writers*. Three of the assistant tutors found no problems with workbooks and two others mentioned minor misprints. Assistant tutors in Geography, History and Biology were seriously concerned that the workbooks did not cover the senior certificate syllabus. Generally the assistant tutors seemed very vague about the set-up at SACHED head office in Johannesburg and knew very little about the people, although they had met one or two of them.

All but one of the assistant tutors complained about the poor attendance of students, but surprisingly most of them reported that the students that did attend were keenly motivated and in most cases both they and the students found that the tutoring sessions of two hours were too short.

tutors since it was left to the tutors themselves to provide instruction as to appropriate ways of setting about the job. In view of the dissension among tutors themselves about how their roles should be performed, this could hardly result in a very consistent approach on the part of assistant tutors.

In interviews with assistant tutors, it appeared that they were generally very satisfied with their work and found the new challenges very rewarding. No very significant disadvantages to the role were mentioned. The assistant tutors seemed to have as clear a concept as to the aims and purpose of the teaching method as did the tutors, and in many ways they seemed to be a little more relaxed about how to proceed.

A critical question is how the assistant tutors responded to the method. Three of the ten assistant tutors interviewed had positive feelings, based on the self-reliance which the method encouraged. One of the assistant tutors indicated that she felt anxious because it was a new method and she did not have a clear idea of her role; she also felt guilty because she just *"watched the students"* and did not 'teach' them. Four of the assistant tutors felt that the method did not help much or did not work and could not be followed. One assistant tutor said *"Some students are too old and have lost touch with books"*, and another assistant tutor said *"Students had no background for the use of the method"*, thus forcing the tutor to teach. Therefore, the same general picture emerges as emerged in looking at the replies of the tutors; considerable disagreement about the merits and demerits of the method.

Nevertheless, the assistant tutors seemed to appreciate the method of studying in groups or pairs although, once again, as with tutors, early assistant tutors began to modify the approach. One assistant tutor indicated that

## 7. ASSISTANT TUTORS

The appointment and performance of assistant tutors will not be commented on in very great detail, since many of the problems and features of their work on the project replicate those of the tutors. From April 1976 the problem of the relative infrequency of tutors' visits to the centres was debated. The proposal was made of engaging extra tutoring assistance and the appropriate form that this would take was soon defined as being the appointment of assistant tutors. The factor of cost prevented the early implementation of this idea and also there were fears that conflicts and tensions would arise within the programme if another category of staff were to be added. Along with the consideration of assistant tutors, it was also decided in principle that there should be an *educational supervisor* appointed to each centre, and for some time it was considered that the educational supervisor could be an alternative to the appointment of assistant tutors. There seemed to be some disagreement on the relevant committees about whether or not the need was greatest for an educational supervisor in each centre or for an assistant tutor. Eventually, by the beginning of March 1977, the problems of cost had been overcome and nominations were invited for assistant tutors.

It was also decided to proceed with the idea of appointing an educational supervisor; a single person in the first instance. This latter decision was taken too near to the end of the project for it to be put into effect.

Some 20 assistant tutors were employed and generally their qualifications were high in the sense that it appears that a majority had degrees. The assistant tutors, like the tutors, were not given intensive training in the study method, nor were they given intensive exposure to the workbooks before being placed in the field. Indeed, the amount of training they received was less than that of the

In general, the broad picture emerging out of the section on tutors was that initial training could have been much more intensive, a much more watchful eye could have been placed on their very initial performance and regular and rigorous feedback given, more frequent high level review meetings of the method could have been held, and that the job stress and uncertainties in regard to conditions of service could have been more carefully monitored. These comments are made in the light of the fact that tutors were a critically important category of staff and should perhaps have been watched and cultivated almost like babies in the early stages of the project. I realise fully why this did not occur, since any project of this complexity imposes a very great strain on project management and not everything can be attended to in time. The comments I make are therefore not intended as criticism but simply as suggestions for the kind of approach which should be adopted if ever the project were to be mounted again, involving tutors in the same kind of role.



Another sensitivity appeared later in the project when proposals for localisation were accepted by the management committee and from these it appeared that there would be a reduction in the number of tutors; the roles of those remaining changing to the equivalent of "regional inspectors" with each centre being controlled by a local educational supervisor with a staff of assistant tutors. Some of the tutors were appalled at this proposal and claimed that the promise of five years' work on the project was not being honoured. The fact that they would have to give notice at a fixed time and that their return to the department would, of necessity, be on a fairly arbitrary basis, meant that they could end up the worse for having served on the project. Although the conditions of service of tutors had stipulated a two-year contract and the chairman, Mr Adler, pointed out quite correctly that the department would be overjoyed to receive men of such calibre back into the department, some of the tutors towards the end were very dissatisfied people.

Earlier in the programme there had been some delay in the drafting of conditions of service of tutors and the impression gained is that a period of role ambiguity existed for tutors. The tutor's role was in fact redefined towards the end of 1976, emphasising his supervisory functions, and his duty to consult and liaise with staff, as well as to conduct his tutoring duties, but perhaps this guidance was rather delayed for so vital a function in the project. A further problem that may have existed, although there is some uncertainty in this regard in my mind, is that in the early stages of their engagements, tutors were not given regular feedback on their approach and performance, although they were observed by evaluation staff members from time to time. These evaluations were not analysed nor communicated systematically to tutors, as far as can be ascertained.

There appeared to be an additional difficulty which arose concerning salaries. In February 1977 the executive committee of SACHED discussed the problem of tutors possibly losing career seniority and losing possible increases due to their secondment to the project, and the viewpoint was canvassed that there should be salary increases to compensate for the loss of career positions. There was opposition to the idea of increasing salaries in that it would mean that SACHED would be deviating from a principle of addressing itself to the needs of the community rather than to the personal status and advancement of teachers. This and other similar reasons led to a decision being taken that no salary increases would be granted at that stage. When this was reported to the tutors at a staff meeting later in February, they expressed dissatisfaction about the decision and some mentioned that they had turned down offers of better positions *"because of the obligation they felt towards their students"*. They requested that the issue be referred to the next meeting of the management committee, and salaries were increased later in the year. There were also difficulties which arose when the department, for an extended period, did not recognise for purposes of internal employee classification, certain promotions that SACHED had granted to the tutors on the basis of service and qualifications.

The point being made here is that it is evident that some sensitivity existed among the tutors regarding the effects of service on the project on their career prospects, and it should also be recognised that these sensitivities could not be lightly articulated because of a certain expectation of idealism and self-sacrifice. For this reason one may assume that there were underlying tensions among the tutors about their salaries and seniority.

the method itself was in fact succeeding to a considerable degree and was appreciated by those students that were able to cope with it. Our interviews with students, from which quotations have already been listed, show quite clearly that many of them, after the event, appreciate the method very greatly indeed. None of the comments and evidence of tutors' difficulties given above should be taken as any kind of condemnation of the validity and success, albeit qualified, of the method adopted for distance learning on the project.

## 6.2. Problems of Tutors

### 6.2.1. Internal Exams and Schedules

Tutors found that a major problem besetting the project was the fact that poor attendance made the internal examination system a very dubious exercise. Tutors felt that the fact of the internal examination itself encouraged a higher rate of non-attendance towards the end of the year. As the tutors saw it, the benefits of internal examinations were the kind of advantages that are customarily recognised; i.e. an opportunity for students to assess their own progress, to gain examination experience, to identify problem areas and to provide a yardstick of progress. Negative aspects of internal examinations were: that the exam period clashed with the student teachers' own examination period in their classes at school, the marking, which was done by Whites, was of too high a standard and did not take account of fatigue and other factors relevant to the local situation, the examinations took a long time to mark and comments did not return timeously enough, and finally that the examinations consumed a lot of tutoring time which could have been more profitably spent in preparing students in terms of actual course content.

The History tutor said *"(it is) ... clear that the department were anti-project ... showed no keenness and never said anything good about it."* One tutor said that there had been too much petty jealousy; for example, departmental officials would accuse tutors of having *"free cars and petrol"*. It was also claimed by one tutor that the department seldom received overall results and information from SACHED and that tension had thus been created. This is referred to later.

One tutor had a particular anxiety and that was that at the end of the project a report on each tutor was to be written by the director for promotion purposes. This tutor felt that he could not trust the then director to write an unbiased report and feared that this career would suffer as a result: *"How could my future rest in his hands?"*

Two of the tutors specifically mentioned that they became increasingly dissatisfied as their *"friends moved up the ladder of promotion"* and they remained behind. Another tutor said that promotion had been based on students' results and he felt that this was unsatisfactory. Difficulty was also created by the fact that salary scales differed for tutors employed by SACHED in Johannesburg and those employed in Mafikeng. Mafikeng decided on a salary scale for tutors, the money was forwarded by SACHED to the department, who paid tutors according to the scale. However, the project saw fit to promote tutors when the department did not. Tutors would therefore receive their salaries from Mafikeng and possibly an additional amount from SACHED. If, however, Mafikeng decided on an increment, this amount would be deducted from the amount paid by SACHED, so the salary would be the same, but with differing proportions coming via Mafikeng and via SACHED. Tutors were unhappy about this irregularity in arrangement.

With the exception of two tutors, all the others stated that most students *"could not keep up with the schedules"*. One tutor added that the schedules themselves were *"scaring"* and that they discouraged attendance. The problem with regard to schedules is yet another reflection of a lack of common cause between tutors and staff writers in the sense that schedules are quite obviously of extreme value in assisting progress through the syllabus content. In fact, without the regime of schedules, it is entirely possible that the progress of students would have been even worse than it was.

#### 6.2.2. Effect on Daily Life

Four of the tutors mentioned that family and social life suffered as a result of the great amount of travelling involved in their work on the project: especially mentioning the three or four days spent in Mafikeng every four weeks and also mentioning the Saturday tutoring. One of the tutors did not mind the itinerant life, saying that it brought him into contact with different people and ideas and that ultimately *"the pros outweighed the cons"*.

The personal discomforts were aggravated for some by inadequate accommodation arrangements, for example some tutors claimed having to sleep in their cars,<sup>1)</sup> and also by the physical danger involved in travelling on bad roads at night under conditions of fatigue. Only two tutors had no comments of this nature about their work on the project.

One tutor spoke with some bitterness about the fact that his own studies suffered, despite the fact that he had been promised that he would have time to pursue his own academic interests.

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1) This in fact occurred very infrequently, but was symbolic of the strain of having to move from one centre to another over long distances, and hence the isolated occasions loomed large in their minds.

In general, though, despite these problems, the tutors tended to mention more of the rewards of tutoring, of teaching adults and of enjoying a sense of real service to their people and community than they did of practical disabilities in their work. There is no doubt, however, that the strain of travelling, of leading an itinerant existence, and of role conflict, told upon the tutors and ultimately this contributed to the decision to employ assistant tutors in order to lessen the need for overtime work by the regular senior tutors.

There is no doubt, however, that a project of this nature, no matter how streamlined, requires a high level of commitment and energy. Tutors have to be selected with this in mind.

#### 6.2.3. Relations with the Department and Conditions of Service

It is in this area that some of the severest strain and problems existed for tutors, which undermined their own commitment and motivation, and therefore their ability to perform effectively to a very considerable extent. One should bear in mind here that tutors were seconded from the department and had to envisage maintaining adequate relations with the department lest their careers be jeopardised.

Although most tutors gave answers in interviews which indicated that they were not particularly worried about their relationships with the department, the majority of tutors felt that the department viewed their work in a rather negative light. One, to give an example, said *"I think they undermined us ... they had their own in-service training doing the same work."* Another said *"Initially, I thought that the project had the blessing of the department, but later hostility."* He spoke of *"vibes"* from the department.

been fairly rigidly bound to their arrangement with regard to the application of the method. As indicated earlier, the compromise should probably have involved the use of an active but clearly demarcated period of "teaching" during which basic concepts were established and comprehended by students prior to proceeding with programmatic syllabus work. Naturally, the need for more directive teaching would have arisen from time to time during the course as a part of the compromise and this would have been permissible perhaps had the tutors been unanimous and enthusiastic about exploring the utilities of the pair and group self-study method.

(Another option, diametrically opposed to the first, would have been to so firmly structure the tutor's role as being one in which any form of lecturing or teaching was to be scrupulously avoided that they would never have been placed in any temptation to revert to the conventional or mixed methods. This may have meant avoiding any kind of student group contact with tutors and having the tutors see students individually to discuss problems. This would not work, however, because the students were simply not up to the level of being able to deal with and articulate their problems individually in the presence of tutors.)

The idea of a compromised arrangement actually protecting the integrity of the basic method as proposed by SACHED/Turret would have been enormously facilitated had there been the kind of active supervision of group and pair learning by administrators which has been suggested in an earlier section.

A reminder by way of qualification needs to be mentioned at this stage and that is to say that there is evidence that despite the lack of consistency in perceptions and understanding regarding the methods within the project,

One weakness of the original budget is that it failed to anticipate that capital costs would arise not only in the first year of operation, but also in subsequent years. The cost savings of 1975 were re-allocated to provide an additional budget for capital expenditure in subsequent years.

Table 3 - Variance between total budgeted and actual expenditure, by year (in rands, rounded)

	1975	1976	1977 Jan/June
Original budget	116 400	111 500	61 300
Revised budget	-	-	70 000
Actual expenditure	95 600	128 500	63 300
Variance	20 800	(17 000)	6 700
Variance as % of budget	18%	(15%)	10%

Note

Budgeted expenditure for Jan/June 1977 is assumed to be half the total for the full year.

Several comments may be appropriate at this stage on the percentage distribution of expenditure as indicated in Table 2. It was noted earlier that one of the intended cost-saving features of BTUP was the reduction of salary costs to a "reasonable" proportion of total expenditure. This, of course, begs the question as to what constitutes a "reasonable" proportion. Expenditure on salaries represented 32% of total costs, (36% of recurrent costs) over the life of the project. This is certainly reasonable if judged by comparison with most other educational programmes. For example, "In the USSR nearly three-quarters of state expenditure on primary and general secondary education in 1965 went for salaries and wages. In Ceylon, the combined personnel costs for primary and secondary education in



1968 represented 94% of the current unit cost per student. In Morocco, an estimated 95% of *total* costs (including capital costs) for a sample of secondary schools in 1967-68 were *current* costs, and of these current costs, salaries represented over 98%." (6) It was figures such as these which prompted the Asian Ministers of Education to agree to aim to reduce the proportion of recurrent costs going into teachers salaries to "only 80% for primary schools and 75% for secondary schools". (7)

Clearly, BTUP was successful in holding down salary costs. But such success does not necessarily make a programme cost-effective. This depends just as much on other costs and on the quality of the 'output' of the programme. Thus, for example, if savings on salaries had been more than counter-balanced by increased spending on equipment or materials, or if the exam results of BTUP students were extremely poor, then total unit costs per successful student might not be any lower than in conventional formal education. These issues will be examined further in due course, but the reduction in salary costs was nevertheless a clear success in terms of the stated objectives and as a step towards cost-effectiveness.

The capital costs of BTUP were similarly lower than in conventional formal education. Capital costs constituted 12% of total costs and consisted mainly of vehicles and office equipment. No new buildings were required. Use of existing buildings and facilities is generally one of the major cost-saving features of non-formal education and BTUP was no exception. The use of existing schools as study centres was socially beneficial in that it represented greater utilisation of hitherto under-used resources, but it did lead to some conflict with extra-mural activities and the introduction of the 'platoon system'.

The third area in which cost savings relative to conventional education were envisaged at the start of the project concerned the opportunity cost of full-time study. Individuals who study full-time forego the income they could have earned by working and society foregoes their time and skill in productive activity. By keeping students in productive employment, BTUP did not incur these costs, and this represents a very major saving in real terms, both to the students and to society. If those who studied through BTUP had given up teaching for a time instead, in order to study full-time, one only has to imagine the financial cost to the students and educational consequences for Bophuthatswana to appreciate the importance of this cost-saving. It is theoretically possible to measure this opportunity cost in terms of earnings foregone, but such measurement is realistically impracticable. What is important is to remember that BTUP avoided such real resource costs and this was a major contribution towards cost-effectiveness. The opportunity to study by this method without any loss of earnings was clearly a major attraction to the teachers involved.

#### 11.3. Unit Costs

A particularly useful figure in judging the relative cost-effectiveness of educational systems is the average recurrent cost per student per year, which provides a basis for comparisons between alternative programmes. The calculation of unit costs in respect of BTUP is shown in Table 4.

Table 4 - Calculation of Unit Costs

	1975	1976	1977 (Jan/June)
<b>A. COSTS (in rands)</b>			
a. Annual Fixed Costs	40 307	65 875	36 883
b. Annual Variable Costs (incl. SACHED Fee)	36 205	49 631	23 201
c. Total Recurrent Costs (a + b)	76 512	115 506	60 084
d. Capital Costs	19 088	12 984	3 234
e. Total Costs (c + d)	95 600	128 490	63 318
<b>B. ENROLMENTS</b>			
f. Study Centre Students	424	577	597
g. Non-centre Students	-	112	125
h. Total Students (g + h)	424	689	719
<b>C. UNIT COSTS (in rands)</b>			
i. Fixed cost per Student (a/f)	95	114	62
j. Variable cost per Student (b/f)	85	86	39
k. Recurrent Cost per Student (i + j)	180	200	101
l. Recurrent cost per Student (incl. non- centre students) (c/h)	180	168	84
m. Capital Cost per Student (d/f)	45	23	5
n. Total Cost per Student (k + m)	225	223	106
o. Total Cost per Student (in BTUP documents)	207	200/210	196 (full year)

## Notes:

1. Source of cost figures : Table 1.  
Sources of enrolment figures : Quarterly Returns and Cumulative History (sections 9.6, 10.4.7, 12.4)
2. It is reasonable to assume that unit cost figures for the whole of 1977 would be approximately double those for the first half-year.
3. Differences between these unit cost figures and those given in BTUP reports (i.e. between lines n. and o.) are due to the fact that project figures were calculated on the basis of expenditure *after* deduction of fee income and this practice has not been followed here.

4. All unit cost figures (except line l.) have been calculated on the basis of study centre enrolment only, as was the practice during the life of the project. The difference between lines k. and l. indicates the extent to which the recurrent cost per student would be reduced if unit costs had been calculated on the basis of total enrolments (including non-centre students).
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A complication in these calculations arises from the students studying with BTUP but not enrolled at any of the recognised study centres. The project was not designed with such non-centre students in mind and neither the original budget nor the quarterly reports adequately distinguish between expenditure in respect of study centre students and of non-centre students. Unit costs were first calculated on the basis of study centre enrolment only and this practice has been followed here, but it is questionable whether this is the appropriate procedure since non-centre students constituted an increasing proportion of total enrolments and, in fact, were the only students enrolled in 1978 after the official termination of the project by the Bophuthatswana Government. (See also note 4 under Table 4.)

The key figure in Table 4 is the recurrent cost per student (line k.). It may be worth remembering that the average cost per student in BTUP in 1976 and 1977 was approximately R200 per annum.

The obvious next step is to compare this figure with equivalent figures for any *similar* programmes elsewhere, and for *alternative* means of achieving the same objectives. Since additional secondary schooling and teacher upgrading through full-time study are possible alternatives to upgrading through distance teaching, and since the cost-saving features which were identified at the start of the project were expressed as cost savings relative to conventional formal education, an attempt has been made to locate or

calculate figures for recurrent government spending per student in secondary schools in southern Africa. These figures are shown as Table 5.

Table 5 - Average recurrent government expenditure per student per year in secondary schools in southern Africa

School system	Expenditure (in rands)	Year	Source
South Africa: Africans in 'white' area	93	1977/78	)SAIRR Survey of )Race Relations SAIRR Survey 1977
Coloureds	364	1977/78	
Indians	282	1975/76	
Botswana	353	1977/78	)Govt. estimates plus )statistics from Min- )istries of Education
Lesotho	107	1977/78	
BTUP	200	1976 & 1977	Table 4 above

Extreme caution must be exercised, however, in interpreting figures such as these. In the first place, they are derived from various sources which may well have adopted different accounting conventions, so the figures are not strictly comparable with each other.

Secondly, such figures for unit costs in schools underestimate the real cost to the extent the *government* expenditure does not represent *total* spending. Part of the cost of most school education is borne by the students themselves, or their parents, in the forms of fees and spending on books, etc., or by other agencies such as churches which may subsidise mission schools, as in Botswana and even more in Lesotho. The real cost of schooling is therefore higher than is suggested by these figures.

Thirdly, there is a fundamental problem in comparing programmes of full-time study with part-time programmes in that the opportunity costs of the two are totally different. The loss of productive activity to society and the loss of earnings to students are such large additional 'costs' of full-time study that they distort cost comparisons enormously.

Fourthly, differential expenditure on education systems reflects the availability of resources and the priorities of those who control resource allocation as much as it reflects the money costs involved in providing a particular service. It does not really 'cost' twice as much to provide a place in secondary school for an Indian student as for an African student; and Botswana can afford to spend three times as much as Lesotho on each secondary school student. But such differences tell us much, if not more, about political priorities and inequalities in the distribution of wealth as they do about relative cost-effectiveness.

Finally, and most fundamentally, one is not comparing like with like when comparing BTUP with schools. Although the two systems are to some extent alternatives to each other, there are crucial differences between them in the number of subjects or courses a student may study in a given time period and consequently differences in the years of study required to attain the required certificate. If it takes a student six years of part-time study to achieve the same number of subject passes as a school student can achieve in two years, then it makes little sense to compare recurrent cost per student per year between the two systems.

A more appropriate indicator of relative effectiveness would be the cost per student per course or per subject pass, or the cost of a complete certificate programme. But such a calculation would require detailed figures on

student enrolments, drop-out rates, number of subjects studied simultaneously, duration of courses, exam results, etc. and this data is not available at present.

Despite all these problems with the unit cost figure given in Table 5, it must be said that the recurrent costs per student in BTUP were not as low as the potential savings of this type of programme might have led us to expect. BTUP did not turn out to be a particularly low-cost alternative to formal schooling on the scale at which the project operated during 1975-77.

This conclusion is supported by evidence from other small-scale distance teaching programmes elsewhere. A recent book on 'Distance Teaching for the Third World' notes that

"Evidence about costs is scattered and by no means clearcut. For distance teaching to be economic, there must be enough students to justify the cost of writing the courses and setting up a system to produce and distribute them. Where there are only a few hundred students, then costs can easily exceed the costs of conventional, face-to-face study. In Kenya, for example, a programme to provide secondary equivalent courses to teachers cost more for each successful student than regular schools." (8)

Secondary schooling is in some ways an *alternative* to teacher upgrading through distance teaching but it is clearly a very limited alternative, which reduces the value of comparisons such as those in Table 5 above. A more appropriate basis for comparison may therefore be equivalent programmes with *similar* objectives, methodology and clientele to those of BTUP, and operating in a similar context. The closest parallel to BTUP within southern African is probably the Lesotho Inservice Education for Teachers programme (LIET) operated by the National Teacher Training College (NTTC) using materials produced by the Lesotho Distance Teaching Centre (LDTC).

The LIET programme consists of a succession of two-year courses each leading to a certificate on the basis of the accumulation of credits. LIET certificates are regarded as equivalent to various other certificates gained through full-time study in the NTTC. Each LIET course consists of independent home study using printed materials, the completion of 'field assignments' in several subject areas, and attendance at five residential sessions in NTTC each lasting two weeks. LIET is similar to BTUP in that both programmes cater for unqualified primary school teachers, studying largely independently and part-time, with limited face-to-face tuition. LIET differs from BTUP mainly in that it seeks to provide professional training as well as academic upgrading and in that assessment of student performance is carried out by the tutors involved in the programme and not by an external examination authority.

Information on the costs of LIET is available from two sources. Mathot (9) provides figures for the LIET courses operating in 1976-78 which suggest that the recurrent expenditure was R45 per student per year. But this includes only the "costs above the normal running cost of the NTTC such as salaries, electricity, use of facilities, etc."

This figure is therefore a clear under-estimate of the total costs of the programme. The nearest equivalent in the BTUP records is the variable cost per student (line j. in Table 4) which was, on average, R83 per year. However, these figures include different items of expenditure and too much should not be made of this comparison.

Mathot also provides figures of budgetted expenditure for an expanded LIET programme in 1978-80. Total expenditure on the two-year programme (including 'overheads', such as part of the normal running costs of the college and indirect government subsidies) is estimated at R527 000 for a total



of 400 students giving a unit cost of R659 per student per year, (this includes some relatively minor items of capital expenditure in addition to the recurrent costs).

The other, and more reliable, source of information on LIET is a UNESCO consultancy report by Pratt (10), on the cost-effectiveness of teacher education at NTTC. This apportions the total costs of the college, as reflected in the 1979-80 estimates, between the various programmes, including LIET, on the basis of detailed assumptions relating to each type of expenditure. Pratt calculates that the recurrent cost per LIET student would be R639 per year (in 1979-80 prices) for an enrolment of 350 students. This is composed of R216 "overheads and other costs subject to economies of scale", (mainly administration support services and office costs), plus R425 "pro rata costs", i.e. those which vary in direct proportion to enrolments (mainly field staff salaries, on-campus tuition, travel, food and instructional materials).

It is significant that Pratt's unit cost of R639 is very similar to Mathot's figure of R659, although the two are derived from entirely different calculations. Both figures contrast sharply with the R200 unit cost in BTUP.

Expenditure per student was much higher in LIET than in BTUP, despite the similarity of the programmes. This was due to several factors, but the most important of these was clearly the much greater degree of institutional support for LIET and the consequent salary costs. This suggests again that BTUP was particularly successful in keeping down salary costs and restricting them to a relatively low proportion of total costs.

One further point of relevance to BTUP emerges from Pratt's study. He compared the costs of pre-service and in-service training at NTTC, Lesotho. The average unqualified teacher apparently requires five years of part-time study to reach

LIET 4 level, which is regarded as equivalent to the Primary Teachers' Certificate (PTC) gained after two years' full-time study, plus one year as an intern teacher in a school. Pratt concluded that:

"the cost per teacher qualifying at LIET 4/PTC level is roughly similar, irrespective of the route followed. The relative priority to be accorded to the expansion of provision of these courses should therefore be assessed in terms of their presumed effectiveness rather than by reference to cost."

Thus the LIET programme does not appear to provide a low-cost alternative to full-time teacher education in the same way that BTUP did not turn out to be a particularly low-cost alternative to formal schooling, as was noted earlier. In both cases, a crucial factor is clearly the relatively small number of students enrolled.

#### 11.4. The Effectiveness of BTUP

If we now seek to relate the above information on costs to the effectiveness of BTUP, then we must return to the formal objectives of the project mentioned at the start. The first main aim, as subsequently modified, was "to develop a system of 'supported distance teaching and learning' which is educationally sound, cost-effective and administratively viable". It is difficult to determine what criteria one might adopt in order to judge whether the aim of cost-effectiveness was cost-effectively achieved. Cost-effectiveness can only be judged relative to extrinsic goals. Other parts of this evaluation seek to judge the soundness and viability of the educational methodology adopted by the project.

It is somewhat easier to assess the achievement of the second main aim of the project, viz. "to provide opportunities for teachers in Bophuthatswana to study for and pass Junior and Senior Certificate examinations". Examination

success can be measured quantitatively and pass rates can be compared between alternative systems and in relation to the equivalent unit costs. Table 6 compares the overall examination results of BTUP students with those of full-time students in Bophuthatswana.

Table 6 - Total subject passes (all subjects)  
as percentage of total entries

	1974	1975	1976	1977
Junior Certificate:				
BTUP Students	-	61%	47%	40%
Full-time Students	66%	n/a	71%	n/a
Senior Certificate:				
BTUP Students	-	53%	56%	65%
Full-time Students	58%	n/a	81%	67%

Notes:

1. Sources: figures compiled by Robin Lee in May 1976, Andre du Toit in November 1977, and S Singer and L Hunter in August 1978 (SACHED Evaluation Programme).
2. Figures for full-time students refer to Bophuthatswana candidates only.
3. The exam results for 1976 are suspect in view of the political events of that year.
4. Figures for BTUP students are based on incomplete data, since the results of some registered students could not be traced.
5. Figures for BTUP students include the results of some students who entered for the examination before completing their courses (e.g. after 1 year of a 2-year course).

It appears from Table 6 that BTUP was decreasingly successful in the Junior Certificate courses, and increasingly successful at the Senior Certificate level, for which it was initially envisaged. It is also noteworthy that, in the last full year of the project, the Senior Certificate pass rate was almost the same as that of full-time students. Nevertheless, this comparison and the equivalent comparison

of unit costs (see Table 5) do *not* demonstrate either that comparable examination results were achieved at lower cost or that greater success was achieved at similar cost, which would be a clear indication of cost-effectiveness.

Such a conclusion, however, can only be a partial judgement for two main reasons. Firstly, taking examination results as the criterion of effectiveness is clearly dubious. Apart from the fact that the exams may not be a reliable test of knowledge and/or ability, it is clear that, although the second formal aim of the project was examination success, there were other aims, less explicit, but equally important to many of those involved. These included the inculcation of critical and independent modes of thought, the improvement of primary education in Bophuthatswana, the enhancement of social and professional mobility, and the attempt to prove the validity and viability of distance teaching and learning. Pass rates in Bantu Education examinations are hardly reliable indicators of the achievement of such aims.

Secondly, any assessment of a project's cost-effectiveness is incomplete without taking into account the distribution of both the costs and the benefits amongst parties involved. *Who* pays the costs? *Who* gets the benefits? The Anglo-American Corporation, SACHED, the Bophuthatswana Government and the students clearly had different aims in mind when they participated in BTUP, even if they all had a common commitment to, or at least an interest in, the formal objectives of the project. It is reasonable to assume that each of these four main participant groups incurred some of the costs and benefitted from some of the achievements, but the extent and nature of the benefits in particular would vary according to their differing perspectives and must be offset against the costs incurred to give several different views of cost-effectiveness. For example, was the cost of BTUP to SACHED, particularly in terms of the time and energy

of the staff involved, worth the returns when these are put in the context of SACHED's wider role in the provision of educational opportunities for Blacks in South Africa? Similarly, did Anglo get value for their money in terms, for example, of goodwill secured by their funding of the project? These questions can only be answered by the organisations themselves in the light of their own objectives, and their own assessment of the results of the project.

One group which cannot provide a collective judgement as to cost-effectiveness to themselves is the students, and it may be instructive to consider the issue from their perspective. Each student was required to pay a registration fee, and course fees for each subject studied. These fees represent the basic money cost of BTUP to the students. Data relating to the project income derived from student fees is shown in Table 7.

Table 7 - Income from student fees (in rands)

	1975	1976	1977
Total income from fees:			
budget	9 000	10 800	9 075
actual	6 632	5 656	7 519
Average fee income per student:			
budget	18	18	15
actual	16	10	13
Average fees as a percentage of recurrent costs per student:	9%	5%	6%

Notes:

1. Budget figures for 1975 and 1976 are taken from the original budget; for 1977 from the revised budget. Actual figures for 1975 are taken from the Quarterly Returns; for 1976 and 1977, from the audited Income and Expenditure Statement.

2. Study centre student enrolment and recurrent cost figures used to derive this table are taken from Table 4.
  3. There is some discrepancy between the Quarterly Reports and the annual Income and Expenditure Statements on the income from student fees. The auditors also noted that they had been "unable to verify fee income received".(12) Data on the levels of fees and on the income derived from fees is therefore somewhat inadequate, and this seems to indicate some neglect of the scope for using fee income to cover costs.
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Some students paid the fees and then did not make use of the materials and tutoring provided; others paid only a part of the total they should have paid; and some students took more subjects than others. The fees paid by individual students thus varied considerably but the average payment per student per year ranged from R10 in 1976 to R16 in 1975. Such sums of money are quite sizeable to a primary school teacher in Bophuthatswana but they are undoubtedly small in comparison with the potential benefits of a project such as BTUP.

The knowledge acquired through study with the project would make for more effective teaching and therefore increased job-satisfaction and self-confidence. In many cases, students needed only one or two more subject passes to attain the number required for a full Junior or Senior Certificate, and such qualifications offered scope for enhanced self-esteem and social status, for higher lifetime earnings, and for the prospect of promotion within the teaching profession or mobility into other types of work. Ten or fifteen rand a year was clearly a small price to pay for such benefits. The opportunity to study systematically, but part-time and without any loss of earnings (as would be necessitated by full-time study), was an additional attraction. This last factor alone would be sufficient to make BTUP extremely cost-effective to the

students themselves relative to the alternative of full-time study, given that the chances of success in passing the examinations were nearly as great with BTUP as with formal schooling.

If we were to assume that all the potential benefits of studying through BTUP were reflected in the subsequently increased earnings of the teacher-students, then we could conduct a cost-benefit analysis to calculate a rate of return to the students on their own spending on the project. This would involve calculating increased lifetime earnings and discounting them to present values in order to compare them with current costs. However, this is a complex procedure for which data are not available, and it rests on some doubtful assumptions. Even without such a cost-benefit analysis, we can safely conclude that BTUP was extremely cost-effective to the students.

If this judgement is accepted, it seems reasonable to question the level at which fees were charged in BTUP. The benefits of the project accrued more to the individual students than to the society as a whole. In such circumstances, it is not being meant to suggest that the students should themselves bear a greater proportion of the cost than the maximum of 9% of recurrent expenditure which was covered by students' fees. This is particularly so if one were to think of the future adoption of the BTUP methodology on a permanent basis and a much larger scale. The chances of extending the approach in this way would be considerably increased if the cost of doing so could be reduced by a significantly greater emphasis on self-financing. Major funding from government sources or a private donor would still be required, but the possibility of raising more of the revenue required from students' fees should certainly be explored in any future project of this sort.

#### 11.5. Projection of unit costs over increased numbers

The distinction between 'fixed costs' and 'variable costs' which was built into the budget and financial reports may be used as a basis for the projection of unit costs over increased numbers. The categorisation of an item of expenditure into 'fixed' or 'variable' depended on whether the item in question was assumed to depend on the number of students or not. If this distinction is valid and if the classification is done correctly, then it follows that the average annual total fixed costs divided by the number of students will give a figure for the fixed cost *per student* which will decline continuously with increasing numbers of students until it becomes negligible. The total variable costs will rise with student numbers so that the variable cost *per student* remains unchanged. Table 8 shows projections of unit costs on this basis.

Table 8 - Putative projected recurrent unit costs (in rands)

	1975	1976	1977	1978	1979
Putative enrolment	500	1 000	5 000	10 000	60 000
Total fixed costs p.a.	60 000	60 000	60 000	60 000	60 000
Fixed cost per student	120	60	12	6	1
Average variable cost per student	83	83	83	83	83
Total recurrent cost per student	203	143	95	89	84

#### Notes:

1. The figure of R60 000 is the average annual total of fixed costs in BTUP over the three years of operation (derived from Table 4).
2. The average variable cost per student is also derived from the figures for each year in Table 4.
3. Total costs in 1977 are assumed to be twice those for the first half of the year.



This table suggests that, if BTUP had ever had 60 000 students enrolled, the recurrent cost per student would have been of the order of R84 p.a., instead of the figure of R200 p.a. which was actually achieved with approximately 600 students. This demonstrates clearly one of the major ways in which the cost-effectiveness of large-scale, non-formal education programmes may be anticipated or achieved. Equally clearly, however, the figures in Table 8 must not be taken as realistic projections of likely costs in any future large-scale project of this sort, since they are based on assumptions which are quite unrealistic. The definition of 'fixed' costs is obviously doubtful since, in the long run, all costs are variable. It is patently absurd, for example, to suppose that a project like BTUP could operate with very much larger numbers of students without increasing the staff, yet 'salaries' were classified as a 'fixed' cost. The salary bill was 'fixed' only in the short run and only over relatively small variations in student numbers. The terms 'fixed costs' and 'variable costs' are therefore misleading and it might have been better to use alternative terms, such as 'costs subject to economies of scale' and 'pro rata costs', which would convey the intended meaning more accurately.

It is difficult to predict the *actual* costs which might arise in a similar project with larger numbers. The key to such projections lies in the *relative* proportions of 'fixed' and 'variable' costs. Whether the savings are significant depends on the proportion of total recurrent costs which are subject to economies of scale. The fixed cost per student as a percentage of total unit costs was 53% in 1975, 57% in 1976 and 61% in 1977. Even if one accepts that some items of expenditure were misplaced in the 'fixed' category, such proportions suggest that potential economies of scale were considerable and that unit costs would have declined substantially if the project had operated on a larger scale.

An alternative approach to the prediction of unit costs over larger numbers is the projection of actual trends in the project as it operated. The problem here is that the number of students involved was too small and too constant, and the period of the project operation was too short, for much reliance to be placed on actual trends in the figures. One trend is worth commenting on, however. The fixed cost per student actually increased, both in money terms and as a proportion of total unit costs, over the slightly increased numbers during the life of the project. This is contrary to what one would expect (see Table 8) and suggests either that the project was not very successful in realising potential economies of scale, or that the classification of expenditures into fixed and variable cost categories was inadequate or inappropriate, as we noted earlier.

One lesson to be learned from this experience for any similar project in future is that no costs should be regarded as absolutely fixed (apart from the influence of inflation) over increased numbers. Expenditures will inevitably rise as enrolments rise, but savings may occur where some expenditures rise less than proportionately to enrolments as economies of scale are secured.

Finally, of course, it must be noted that the above discussion assumes constant prices. Any actual prediction or projection to be used as a basis for the costing of a similar project in future would have to make allowances for cost escalation from year to year in line with the current or anticipated rate of inflation.

#### 11.6. Overall Conclusion

This paper has sought to assess some of the available data concerning the costs of BTUP as a basis for judgements of the cost-effectiveness of this form of educational

provision. The evidence is far from being conclusive and does not demonstrate convincingly that BTUP was either a better or a cheaper alternative to conventional schooling, although there are clear indications of potential savings and economies of scale. These were not fully realised owing to the small scale and premature termination of the project. But the indications of potential cost-effectiveness relative to formal schooling, particularly bearing in mind the opportunity cost of full-time study, are very strong. In economic terms, BTUP was largely successful as a pilot project - it has demonstrated the potential even if this potential could not be fully exploited in such a small-scale project.\*

\*This chapter was completed before the production of the completed draft report. While the author of this chapter was fairly fully acquainted with the circumstances and implications of the project, it is possible that the conclusions above might have been slightly modified in the light of a full report.

### References

1. For three different definitions of cost-effectiveness, and corresponding distinctions between cost-benefit and cost-effectiveness analysis, see:
  - i) M Blaug, "An introduction to the Economics of Education" (Penguin, London, 1972), pp 120-127.
  - ii) M Ahmed, "The Economics of Nonformal Education" (Praeger, New York, 1975), pp 79-84.
  - iii) P H Coombs and J Hallak, "Managing Educational Costs" (OUP, New York, 1972), pp 82-84.
2. Robin Lee, "SACHED Bophuthatswana Project - Statement of Aims and Principles" (SACHED, 7-10-74).
3. Shirley Singer, "Preliminary Review of Aims and Objectives of BTUP" (SACHED, 29-8-77).
4. Robin Lee, op.cit.
5. "BTUP - Cumulative History", section 7.9.
6. Coombs and Hallak, op.cit., p 110.
7. ibid., p 110.
8. M Young (et al), "Distance Teaching for the Third World" (London, Routledge and Kegan Paul, 1980), p 65.
9. G Mathot, "Report on in-service activities at the NTTC" (Maseru, NTTC, 1978, mimeo).
10. S Pratt, "Lesotho : the cost-effectiveness of educational provision, with special reference to the National Teacher Training College" (UNESCO consultancy report) (Paris, UNESCO, 1979).
11. S Pratt, op.cit., p 12.
12. Report of the Auditors, dated 23 March 1978, on the Annual Financial Statements for 1977.

## 12. STUDENT PERFORMANCE AND RESULTS

In Appendix 5 a brief report is included by S Singer and L Hunter which indicates the student results in formal exams over the three years of project operation. It will be noted from the first table in the appendix that a remarkable improvement occurred up to 1977 in all subjects written for senior certificate. The rate of pass in English, Afrikaans and Tswana in 1977 was commendably high. And even in the content subjects of History, Geography and Biology marked improvement over 1976 took place. The overall average pass rate for subjects represents an improvement of nearly 17 percent in relative terms and the average aggregate went up by over 9 percent.

The reverse was true of junior certificate results, unfortunately, where the average subject pass rate dropped from 47 percent in 1976 to 40 percent in 1977. Why there should be a difference in the trend between junior and senior certificate results is very difficult to say. It may be that tutors devoted more attention to the senior students. Indeed, tutors were instructed to give more attention to senior students. Mr Adler used the phrase "*the junior student tended to be orphaned*". It may also be, however, that the junior certificate candidates, as a minority in the student group, were less motivated and relatively demoralised. The most plausible explanation, however, is that the number of junior certificate candidates with the ability to proceed in their studies is a limited pool and that as candidates have passed in previous years, so the pool has diminished, leading to a greater relative number of very poor candidates. The results from the NIPR psychometric test battery would indicate the strong possibility that there is a clustering of very inferior aptitudes among those who would be candidates for the junior certificate and that as the project proceeded the proportion of the junior candidates with the ability to succeed dropped.

sharply. It may very well be that had the project continued, in three or four years' time there would have been absolutely no potential for success left in the pool of candidates with less than junior certificate. Here one is referring not to the total teacher group in Bophuthatswana but to the selected universe of people of a type who will enrol for teacher-training courses; this universe was the one tested by the NIPR.

In previous reports on performance, for example, the report by Lee<sup>1)</sup>, the average percentage subject pass for the project has been compared with the student pass rate for Bophuthatswana as a whole and for the national average of Black candidates. The comparison placed the project in a relatively favourable light in the sense that pass rates were almost comparable to the full-time students in schools. However, one cannot compare an average *subject* pass rate with a *student* pass rate since the two percentages indicate totally different things. One regrets to say that when the average pass rate for subjects is, say, 65 percent as it was for the project in 1977, the equivalent pass rate for students in their full courses in full-time study would be quite considerably lower.

As regards precise comparative success rates, subject by subject, the only available data appears in the following table. The data for BTUP students are incomplete since examination results for only some 60 percent of former students could be traced. There is no reason to believe, however, that the available results are not a representative cross-section of the total distribution (see notes in Appendix 5). The comparison is also only given for senior certificate results, since we have already indicated that the junior certificate candidates in the project may have been drawn from a pool of abnormally limited academic talent.

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1) "Distance Learning and Teacher Training : A Project in Operation : 2".

Comparisons between percentage success rates in subject examinations in the BTUP and National Senior Certificate examination results for Black pupils in S.A. and S.W.A. : 1977

	<u>BTUP</u>	<u>National</u>
Tswana	96% (Higher grade)	96% (Higher grade)
Afrikaans	85% (Std. grade)	82% (Std. grade)
English	93% (2nd Language-Higher grade)	79% (2nd Language-Higher grade)
History	37% (Std. grade)	47% (Std. grade)
Geography	24% (Std. grade)	73% (Std. grade)
Biology	16% (Std. grade)	69% (Std. grade)

These comparisons make it clear that the achievement in languages was remarkably good, while the results obtained for the 'content' subjects were poor and fell well below those obtained by Black full-time students. The relatively weak performance in content subjects in part was due to the fact that for many of the teachers enrolled in BTUP the subjects of Geography and Biology were totally new to them. The results do not enable an assessment to be made of the project method for this reason. They indicate the need for special attention to the content subjects and possibly the kind of modifications in course materials and tutoring approach which have already been discussed.

In general, all that one can say firmly at this stage is that the success rate on the project was steadily improving by the time it was terminated and that, for *part-time* students, the results were very gratifying indeed. There is a lot to suggest that the appointment of assistant tutors and a study supervisor for each centre would have improved the results in 'content' subjects, had the project been allowed to continue.

Documentation was prepared giving exam results separately for the different study centres. While one is tempted to analyse the rates for each study centre, this would be a

misleading exercise since the performance of a group at a study centre cannot be attributed only to the quality of the study centre but should also be attributed to the type of school in the neighbourhood and the kind of person appointed to such schools, both of which could be quite selected and variable as to ability or quality. These results, therefore, are not included.

The results of the social survey among students conducted for this report allowed an analysis to be made of factors which correlate with performance in passing subject exams. Because such a complexity of factors contribute to a student's success or failure, not many clear trends emerge from the results of the social survey. One or two trends are strongly suggestive, however, and indicate that the facilities which the project offered have a definite value. For example, those who attended the summer and winter schools and particularly those who attended and found them rewarding for academic reasons, tended to have a higher rate of pass in subjects than pupils who did not attend.

A similar correlation emerges between examination results and attendance at study centre sessions. For example, among those who missed 25 percent or more of the study sessions, by their own admission, only some 55 percent passed one or more subjects. There is also slight evidence of a similar relationship between success and release from extra-mural activities in the afternoons.

Unfortunately, it is impossible to say that attendance at study sessions, summer or winter schools and release from after-school duties directly led to the greater degree of success, since attendance and determination to obtain release from afternoon work may also relate to motivation which in turn would relate to examination success. At least one can say that the facilities provided by the project offered an environment for the highly motivated, an environment to which they responded positively. In all



probability, however, there is a more direct and stronger relationship between attendance at study sessions and seminars and success at examinations.

Another trend which emerges is for those women who are in the youngest age group of 20 to 29 years, and those women in the advanced age group of 40 years or older to do somewhat better than women in the middle group between the two. There is also a related tendency for women with no children and women with a larger number of children to do rather better than women with numbers of children in between. This can mean either that the younger and the older women are somewhat less impeded by burdens of marriage and family life, or it can mean that the younger women have had more recent exposure to academic studies and that the older women had exposure to a superior educational system under the old provincial dispensation; the latter being the theory held by the former director, Mr X. Which explanation is true cannot be identified from the results available, but both possibilities offer workable hypotheses.

Regrettably, no more can be said about performance at this stage in quantitative terms. What can be reported, however, is that the Secretary for Education in Bophuthatswana, in an interview, said that it was his convinced view the teachers who had undergone course work in the project were more effective in the classroom situation than others, and that they made more valuable contributions than others, in special courses and refresher sessions, and that when somebody was needed to explain certain concepts, students from the project were the ones to do it, par excellence. Coming from a Secretary for Education, this is obviously a highly reputable opinion and is a tribute to the qualitative merits of the course method.

2. A LARGE MISADVENTURE : THE CASE OF THE  
FORMER DIRECTOR

After some delay, during which Dr Lee ran the project as interim director, a Black director was appointed. The Black director will be referred to simply as Mr X. Mr X had been chosen among candidates put forward by the Bophuthatswana Department of Education. The department at no stage indicated that in Mr X's department history there might have been a certain question in regard to irregular behaviour. One respondent with great insight was of the view that it was possibly customary in an African bureaucracy not to take punitive action against a person about whose behaviour there might have been questions, but rather to promote or transfer the person out of a particular trouble spot.

In any event, Mr X was clearly the most superior candidate, having had overseas training in English teaching as a second language and having a very sound university background in general, as well as an extremely sound reputation as a school principal, educationalist and administrator. Mr X clearly outshone other candidates in the selection interviews and was duly appointed as director in a shadow capacity working with Dr Lee for the first few months.

It appears from interviews conducted with senior staff of the project that no shortcomings were manifest in the early stages because Dr Lee, with characteristic efficiency, tended to protect Mr X from mistakes by undertaking a good deal of the really difficult work for him. This was completely understandable in view of the rather delicate stage of development that the project was at during those months.

The social adjustment of Mr X to the project was not too fortunate in the early stages and there were rather petty but nevertheless symbolic disputes about sizes of motor cars and office equipment; all being interpreted as indications of an untoward status-concern on the part of Mr X. Perhaps because of this or perhaps because of his seniority, he was not generally referred to by his first name by other members of staff, which was otherwise typical for SACHED.

The real problems arose after Dr Lee left and Mr X took over full responsibility. Interviews with senior staff both in SACHED and in Bophuthatswana and with well-informed members of the project team indicate that the problems were: a lack of leadership ability and the necessary assertiveness to impose discipline, consistency and inspire appropriate behaviour in a difficult field situation; certain failings in administrative efficiency; a failure to meet certain important deadlines; a certain vulnerability to criticism from tutors, which sometimes occurred fairly openly at staff meetings; the failure to spend sufficient time at study centres; and general failures in judgement.

From the departmental side, it also appeared that some of the tardiness which was characteristic of administration under Mr X led to delays in the supply of information to the Bophuthatswana Department of Education, which did little to improve the standing of SACHED and the project in the eyes of the department. This fact was very important.

After due warning, a decision was eventually taken in a special ad hoc executive committee of the project under chairmanship of Mr David Adler to dismiss Mr X. It had been suggested to him on a previous occasion that he should resign, but he had not taken the cue. This decision was duly put into effect and the department was notified and

requested to take Mr X back from secondment into service into the department as quickly as possible. Mr X was very aggrieved and many months later, when the author interviewed him in Bophuthatswana, he still displayed considerable feeling about the incident. Mr X's side of the story was that Mr Adler was too unyielding in his demands, unsympathetic to the realities of the field situation and that he was also inconsistent in the application of rulings in regard to matters of salary and transportation allowances. Mr X felt that, perhaps because of poor relations between himself and David Adler as chairman, he had been victimised. Tutors, after having made their own difficulties with Mr X's administration quite clear on a number of occasions, were taken aback at what they saw as too sudden a dismissal of Mr X<sup>1)</sup>, and felt that, in the reasons given for his dismissal, they had been implicated as agents of his misfortune. The tutors withdrew from their original position of open criticism of Mr X and supported him in a vain attempt at reinstatement. In the long run, however, none of the tutors appeared to perceive the action of dismissing Mr X as bad for the project. The dismissal did have shorter-term repercussions however, and it increased the insecurity of tutors for a while if for no other reason than the established order in a highly-stressed project had been disrupted by the dismissal. There is just a possibility that Mr Z's resignation as tutor may have been stimulated in some way, although not caused by Mr X's dismissal and the resulting uncertainty.

A new director, in the person of Mr Y, was fairly soon appointed and the project settled down for a brief normal existence. The project showed every sign of recovery from the disruptive event, especially since the new director in effect was more closely associated with the Bophuthatswana Department of Education than Mr X had been.

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1) In a comment on this, Mr Theo Derkx, a former senior staff member in SACHED, observes correctly that Mr X was dismissed in a very "non-African" way. Had certain procedures been adopted to allow Mr X to save face, his bitterness would not have been so great.

It is not the task of this evaluation to assess merits and demerits of the dismissal of a staff member on a project since this is possible in any programme, and where such action is felt to be necessary it must inevitably take its course. However, attention might simply be drawn to the fact that the effects on the programme may have run deeper than was obvious on the surface. Mr X was extremely popular in the area of Mafikeng and, by all accounts, there was tremendous dismay at his dismissal among students that he had tutored and among a wide variety of colleagues and friends. Mr X, who had rejoined the department, was subsequently promoted to the post of inspector, and was given the honorary position of editor of the Bophuthatswana Teachers' Journal; in many ways a uniquely influential position. Hence one may assume that Mr X's influence within the educational circle of Bophuthatswana probably grew after his dismissal. In a case like this, it is not illogical to assume that the vulnerability of the project may have been increased by the event. This statement is not intended as an evaluative comment on the event, but simply indicates a possible development which is of some importance in the light of the matter to be discussed in the next section.

14. CIRCUMSTANCES SURROUNDING THE  
CLOSURE OF THE PROJECT

The Bophuthatswana Teacher Upgrading Programme was prematurely closed by a decision of the Cabinet of Bophuthatswana at the end of 1977. This occurred after the permits of White staff to enter Bophuthatswana had been withdrawn, possibly in consultation with the South African authorities. The project was closed despite the fact that it was made quite clear to the Bophuthatswana Government that it could continue without the White staff entering Bophuthatswana. The attitude of the Bophuthatswana Cabinet was firm, however, and no appeal or discussion was allowed.

This event has to be understood at two levels. I will endeavour to give an outline of the possible dynamics of the situation, but in so doing, for reasons which are understandable, I will not give the names of respondents who may have provided insights, ideas or possibilities.

The one level is what one may call a level of '*vulnerability*'. It appears as if the project became more and more vulnerable and more and more open to attack or misunderstanding as it progressed. Several factors may have been associated with this vulnerability: bureaucrats in government departments all over the world tend to feel uneasy about outside, private initiatives on their terrain, especially where such initiatives may be surrounded by some controversy. Secondly, some of the White officials who were formerly close to or involved with the project may have become increasingly prone to misunderstand the intentions of the project once they were moved off the administration of aspects of the programme during the course of localisation of staff in the Bophuthatswana Government. Thirdly, inspectors and certain powerful school principals were not adequately integrated into the programme and there may even

have been an instance of more or less open disagreement between one tutor and an inspector. One can also understand, in this regard, that inspectors can very easily feel uncomfortable with a prominent and very active programme operating within the fabric of the educational facilities which they administer and oversee in their regions. Fourthly, some of the students were actually related to or indeed even were the wives of very senior officials in the education department and it has been said that some of these students disliked the "method" so much that they may have influenced a shift in official attitude towards it. Certainly there was a growth in an unco-operative attitude on the part of the official administration which was manifested in subtle ways and which contributed greatly to the insecurity of the tutors. Fifthly, there were very infrequent occasions where White SACHED staff had voiced some kind of criticism of "Bantu" education, and where this occurred in front of White seconded officials, negative reports could have been sent to the department. Sixthly, the formality of interaction in a new bureaucracy is well-known, and outsiders often find that they are expected to behave more meticulously than would be the case in central and well-established government departments. In this regard the dress and informal style of Mr David Adler may have occasioned some discomfort and a little bit of 'talk'. Here one must emphasise that this is a trivial and unimportant matter in essence, but it has been known to have repercussions in other settings in the past.

These points are all speculative and certainly none of them can be proven. All that is being suggested, however, is that it was perhaps this kind of factor which imparted a vulnerability to the programme in the orbit of the Bophuthatswana Department of Education.

The second level may be called the level at which the closure was *precipitated*. Here again, one has to be speculative as to the kind of thing that may have happened and the following are offered as suggestions of possibilities only.

Firstly, it must be remembered that senior teachers, principals and inspectors in a territory like Bophuthatswana are politically very powerful people and because of their status, identify quite strongly with the aims of the territory and are very sensitive to any factor in their own institutional environment which may be interpreted as hostile to the aims of their government. In this regard it was considered that one of the tutors may on one occasion have made strongly critical comments about the proposed independence of Bophuthatswana and this might have been done in front of students who were related to powerful people in the political sense. This would be a factor which could theoretically precipitate action against the programme.

Another possibility concerns a certain party for staff and tutors in Hammanskraal, at which behaviour became fairly spontaneous and relaxed and, while quite normal in Johannesburg, may have created the impression that a highly unconventional influence was at work in Bophuthatswana.

Rather more potent as a possibility is the fact that a little while before the closure of the project, another SACHED programme, namely *People's College*, then published in the *World Newspaper*, ran into some controversy with the government and the South African Minister of Justice referred to a transcript of a tape about the Russian Revolution which he claimed represented a politically dangerous interpretation of that event. This tape was in fact a tape from the materials archive on History from SACHED and it was not used for the "People's College" series, nor was it influential in the History course in Bophuthatswana. Naturally, however, this would have



attracted the attention of the South African security authorities to the project, and if the Bophuthatswana authorities had been alerted, it could have precipitated the closure.

One of the tutors happened to be informed by one of the officials in Bophuthatswana that a letter had been received from the South African Government enquiring into the project and into the identity and activities of some of the senior staff, more especially, David Adler. It is suggested that this kind of enquiry may have been sufficient to have the project closed, simply on the grounds of the elimination of risk.

These are the kinds of circumstances which surround the closing of the project. Not one of the specific possibilities mentioned may have been the operative factor, but nevertheless these do sketch a climate of perception and interpretation which, in the South African setting, could easily lead to the closure of a project like the Bophuthatswana Teacher Upgrading Programme. People who have been closely associated with the programme or have taken an interest in what has been a highly important and significant endeavour in educational development, know very intimately that there was nothing about the project which was dangerous, subversive or in any way legitimately disquieting to the South African authorities, or the authorities of Bophuthatswana. Nevertheless, even the tiniest amount of institutional separation between the programme and bureaucracy opens a dark crevice in which misinterpretation breeds and suspicions collect.

Nothing can be said about the closure which in any way negatively evaluates the actions of any individuals on the programme. The actions, attitudes and statements were all moderate and very well-intentioned. The only

possible safeguard that could have been taken was to have worked more closely and intimately with the Bophuthatswana Department of Education in the implementation of the project, perhaps by *having some senior official right at the heart of any kind of central decision-making*. This might have proved to be a safeguarding factor, but one can hardly prescribe it in the light of the perfectly sound and healthy intentions of every significant member of the project staff. The closure of the project can only be very deeply regretted.

## 15. PROBLEMS OF ORGANISATION AND COMMUNICATION

### 15.1. Organisation

The Bophuthatswana Teacher Upgrading Project quite unavoidably had an anomalous position in relation both to SACHED and to the Department of Education. This was known in advance and one is quite certain that members of staff anticipated many problems. The severity of the problems may, however, have been unexpected.

Liaison with the Department of a continuous kind was formally secured by the inclusion of a fairly senior official on the management committee of the project. Furthermore, it was anticipated that the director would maintain close contacts with the department. As so often happens, however, formal links and structures fail to secure the necessary organisational coherence. Several problems in this regard came to light in the evaluation research.

Firstly, there seemed to be a certain problem of "identity" for the project. According to some informants, the tutors who had been seconded from the department wished the identity of the project to be as close to that of the department as possible, but they suspected that many Johannesburg-based staff wished the project to retain a strong SACHED/Turret College identity. The departmental officials apparently referred to the project as "Turret" or "SACHED". Obviously all these different identity labels were inappropriate for a project which was in every sense a joint endeavour, and may in themselves have introduced or at least aggravated problems of alienation and misperception in the project.

Senior informants also suggested that some inspectors and principals felt uneasy about the roles of the tutors, even to the point of suspecting some of them of being overpaid, overcompensated for expenses, and in the case of one tutor, of financial irregularities (selling project petrol). This

type of perception is not uncommon when an unusual new role is introduced into an employment structure with very well-established, hierarchically organised positions. These problems arose despite the fact that inspectors were informed about the project in personal interviews, and principals were given a description of the project and lists of the teachers in their schools enrolled for courses.

It seems quite clear that the view in the department was of an independent, private project operating within the educational system and not one which was a part of the system. For example, at one point the department commenced a night-school programme in competition with the project, without any prior consultation with members of the project team. Another example was the lack of determination on the part of the department to ensure better attendance, seen particularly in the view that the teacher-students' academic studies were secondary to extra-mural duties in schools (cf. circular No.39 of 1975 in Appendix 6).

In part this structural division was emphasised for officials by the fact that financial control of the project was vested largely in SACHED. In any typical bureaucracy, control over finances is more than a matter of accounting, it is also a means whereby activities are assessed, graded, maintained and controlled. The bureaucratic uneasiness may have been heightened by frequent rumours and/or accounts of centre administrators pocketing project book funds (one is "rumoured" to have purloined as much as R200). The apparent delays in furnishing the department with reports and information may have been another aggravating feature.

Perhaps an indication of the extent to which the project was seen as external, different and running to its own rules was the difficulty encountered by SACHED management

in repeated unsuccessful attempts from 1975 to 1977 to get the project integrated into the structure of the Department In-Service Training Programme.

All senior informants were strongly of the opinion that the structural separation of project from department was a major underlying problem in its operation. With the wisdom of hindsight, it would have been better perhaps had the project been placed fully in the control of the department with SACHED engaged as a *consultant and course-writer team on a contract basis*. The other alternative which would only have been possible in a less-controlled setting would have been for SACHED to run the scheme entirely privately, perhaps paying a moderate use-charge for the use of school buildings. The latter, however, would not have accorded with the aim of ultimately handing the project over to the department, hence the former alternative would seem to have been the most appropriate. The factor of distance between the project and departmental head offices - between Johannesburg and Mafikeng - was undoubtedly a feature which aggravated the problems outlined above.

#### 15.2. Communication

More serious even than the problem of a structural discontinuity was that of inadequate communication and feedback. Very broadly, it almost seems as if the "head office" staff of SACHED had to contend with a remarkable lack of frankness throughout the running of the project. There are many examples of communication breakdown.

One problem was that the "real" attitude towards the project in the department did not seem to be communicated directly to the project team at any stage. Considerable evasiveness is apparent in documentation on the project. The same applied to the attitude of inspectors.

Equally serious was the fact that tutors did not communicate effectively with the course-writers and others on the project team. One senior respondent went so far as to say that tutors deliberately falsified their reports on study centre activities in order to avoid problems. In some instances, the project planning itself must bear some responsibility for inadequate feedback.

For example, regular joint meetings of tutors and "head office" staff were only instituted in 1977, before which such sessions were sporadic. There were probably additional reasons for the lack of feedback, however. One apparently insightful respondent said that the tutors generally lacked the confidence to communicate frankly to members of SACHED staff, who were seen to be very expert, self-assured and judgemental.

Another informant claimed that since the course writers were young White women, relationships between them and the tutors were uneasy and tense.

A competent and determined Black director could have done much to facilitate communication between tutors and SACHED staff. It has already been noted that the director's lack of effectiveness was quite serious, however, and besides which, his communication with tutors and the department was itself strained.

A very sensitive evaluation approach, employing not only questionnaires and reports, but involving a great deal of unstructured interaction with people in the field would have facilitated communication enormously. As it was, however, the evaluation task was apparently not carried out as planned. One evaluator, Shirley Singer, at least was aware of this and she noted that the *"project did not listen enough"*.

Both the communication problems and the organisational division resulted in a fairly considerable lack of overall cohesion in the programme. One group would tend to blame another for the problems. David Adler, at one stage in 1977, indicated his disquiet at the tendency to apportion blame, saying to the Johannesburg staff that they should not always blame the field staff and field situation for problems which could well have originated in the approach of people in the Johannesburg office.

There is ample evidence that overall communication within the project was improving towards the end of 1977. Had the project continued, the overall programme would have gained in effectiveness and cohesion. Some problems may have persisted for a considerable time, however, since early blocks to communication have effects which are difficult to eradicate. Particularly the sense of a division between the Johannesburg office and the field operation, and the images associated with this might have persisted. Therefore, the need to integrate the programme more effectively into the Bophuthatswana Department of Education would have become critical. Steps were in progress to achieve this, just before the programme was terminated.

On the management side, it can perhaps be said that as soon as it became apparent that the field situation was highly complex and that the director in the field lacked complete effectiveness, a Johannesburg-based co-director or "educational" director should have been appointed to devote himself/herself entirely to the professional servicing of the field operation. This would obviously have run up against important cost objectives, however. Since a committee like the management committee cannot manage on a day-to-day basis, and given the fact that the director was not completely competent, the management function must have suffered.

16. DISCUSSION : HOW APPROPRIATE AND  
EFFECTIVE WAS THE PROGRAMME?

We have evaluated a teacher upgrading programme involving the use of distance-teaching methods directed at a severely disadvantaged region in Southern Africa. It might be useful at this point to recapitulate briefly on the nature and aims of the project. The Bophuthatswana Teacher Upgrading Programme involved:

- SACHED/Turret College entering into an agreement with the Bophuthatswana Government to co-operate on the project, which was financed by the Chairman's Fund of the Anglo American Corporation.
- A specialist staff of course-writers in Johannesburg writing workbooks aimed at covering the syllabuses of six subjects for junior and senior certificate examinations: Tswana, English, Afrikaans, History, Geography and Biology. The workbooks were intended to guide students through the syllabus moving from easier to more difficult material, in such a way as to stimulate interest and to encourage an independent approach to learning based on understanding, grasp of material and the development of a facility to apply and manipulate the knowledge absorbed.
- Establishing, without capital costs, of study centres in primary schools in Bophuthatswana, utilising existing classrooms, under the supervision of administrators who were usually school principals and who were paid a nominal fee to undertake the duties on a part-time basis in the afternoons. Later, part-time educational supervisors were envisaged for each centre as well.
- Appointing six subject tutors, all being relatively highly qualified secondary school teachers on secondment from the Bophuthatswana Department of Education, whose task was to travel from centre to centre,



supervising and assisting in the studies of the candidates enrolled, without teaching in a conventional sense. Later, assistant tutors were appointed for each centre separately, to back up the itinerant tutoring service, which was planned to be phased out and to be turned into a more general role which one may call that of "tutoring inspector" or supervisor, with reduced numbers of staff at that level.

- Appointing a Black director to oversee all aspects of the programme.
- The enrolling of a large number of teachers, most of whom were allocated to the most conveniently located study centre possible. The numbers enrolled were 424 in 1975, 689 in 1976 and 719 in 1977.
- The involvement of the students in small study groups or in study pairs so as to enable students to stimulate, support and encourage each other in an autonomous learning programme.
- The regular submission of assignments or the regular writing of tests with the intention that papers would be thoroughly marked and returned very quickly in order to give students rapid feedback on their progress.
- Working to a set schedule of progress through the syllabus monitored by tutors.
- Using tape-recordings, slides, library books and other study aids to supplement workbooks and tutoring.
- Maintaining an ongoing evaluation of the project through a team of evaluators.
- Planning, administering and budgeting for the project in such a way as to make it both educationally sound and cost-effective.

- Establishing the project in such a form as to make it sufficiently economical and appropriate in structure to be taken over by the Bophuthatswana Department of Education at the end of a five-year period.
- Through the programme, testing a method of distance-teaching to upgrade teachers, intended to be applicable to other situations in Southern Africa in which educational handicaps are prominent.

The project, conceived as outlined above, was established in Bophuthatswana, a Black region of South Africa which manifested severe educational deficiencies in common with all other Black areas. The quality of teaching was adversely affected by a wide range of factors, one of the more important being a large proportion of teachers (25%) who in terms of formal minimum requirements were underqualified to teach at the level at which they were required to teach.

For SACHED staff, the choice of Bophuthatswana, a Black "homeland" created in terms of government policy, was not ideal and in some cases conflicted with political convictions. In the foreknowledge of all sorts of political and bureaucratic impediments to instituting the project within the orbit of the central Department of Education and Training operating in the common areas of South Africa, however, Bophuthatswana seems to be an appropriate choice. One important consideration was that the region had an autonomous regional administration, facilitating access to the Department of Education and its schools.

There is no question of the need for Teacher Upgrading Projects in the "homeland" areas, however, and the project planning staff and the Bophuthatswana education authorities are both to be congratulated on the decision to embark on a form of co-operation between a private development organisation and a government administration which has tended to be too rare in the past. The Group Chairman's

Fund of the Anglo American Corporation of South Africa is also to be highly commended for granting financial support to the programme. It is a great pity that the project was interrupted prematurely.

In the preceding text a large number of conclusions have been drawn and a few specific recommendations have been ventured, possibly applicable to any new project started by the administration of Bophuthatswana or by any educational authority for Blacks in South Africa.

In the following section, not all of the conclusions and recommendations discussed on preceding pages will be repeated. At this stage it is necessary to concentrate on a discussion of some of the larger and more salient issues emerging from the evaluation, stating or restating recommendations as they arise from this final analysis.

#### 16.1. The Educational Effectiveness of the Project

One would judge the project to have succeeded in educational terms on the following grounds:

- a) The vast majority of participants appreciated the service and felt that they had gained more from the project than they would have benefitted from conventional correspondence tuition.
- b) The results of examinations in language subjects compare very favourably with those obtained by full-time students. This is noteworthy since a great portion of the participants in the programme had either not studied for a long time or experienced very considerable demands on their time, energies and commitments in the course of continuing with their teaching positions while studying.

- c) The results for the content subjects of Geography, History and Biology compared unfavourably with those for full-time pupils, but had the candidates all had previous exposure to Biology and Geography, the results would probably not have been worse.
- d) There is suggestive evidence that exposure to the study centres and summer and winter schools accompanied more favourable results, underscoring the value of the particular method of distance teaching.
- e) Opinion-based evidence obtained from students and officials, as well as the former director of the project (who was otherwise very critical) showed that the method of encouraging independent study in groups as well as the content of the workbooks enriched the students academically and increased their self-confidence. Up to 40 percent of the students actively and fully absorbed the method into their approach as teachers and their new abilities were recognised at high levels.
- f) The tuition method can be said to have been successfully adapted to by students who had a stronger academic/intellectual background. It was less suitable in the form planned in the case of less able students.
- g) Despite whatever difficulties of an organisational kind the particular method caused, it was an extremely appropriate resolution of the conflict between the need for academic support on the one hand and the impracticality and cost of having full-time and fully-fledged teachers, or of removing the student teachers from service, on the other.
- h) Had a more conventional method of teaching been adopted it would have perpetuated the traditional dependence of pupil on teacher and the lack of active participation by pupils, which are both serious problems in Black schools in South Africa.

The educational effectiveness of the project could have been improved by the certain kinds of modifications and additions to the project. It is important to note that not all of these would have been practical unless the budget had been larger (see later), but the suggestions which follow may be relevant to new projects:

- a) A more effective selection of students should have been made, particularly in the early stages, to eliminate the roughly 30% of candidates who were of uniformly poor abilities as tested by the NIPR.
- b) A more careful selection of tutors should have been made, if necessary from outside Bophuthatswana, to ensure uniformly high abilities in a vitally important role requiring flexibility and great empathy and commitment.
- c) An educational supervisor (on a full-time basis) should have been appointed to each study centre to guide and support the students in adapting to the, for them, unusual method.
- d) If careful selection cannot be applied there should be special attention given to those candidates with learning disabilities, either by breaking their courses into two years (with a "slower" version of each workbook and schedule available) and/or having them take extra courses with an assistant tutor specially appointed (part-time) in the evenings.
- e) Assistant tutors may have to be appointed from the outset in any similar programme. (This need was clearly revealed by the decision to appoint such additional staff in 1977.)

- f) A further possibility, perhaps less relevant to the programme in an immediate sense, would have been to have a *language and comprehension course* given on an intensive full-time basis during the vacations. The possibility of introducing language training was canvassed within SACHED but the idea was dropped, probably for reasons of cost. Language and comprehension skills are fundamental to achievement in all school subjects.
- g) The abilities and suitability of the junior certificate pupils should have been very carefully investigated since the probability exists that teachers with only Std 6/7 who are long out of school may introduce learning difficulties too great for a distance teaching project to cope with. Health and eyesight testing should also be introduced in the selection procedure. It needs to be borne in mind that as teacher upgrading proceeds, the quality of those left with Std 6 or 7 qualifications will steadily diminish.
- h) The method of independent group or pair study should have been accompanied (more particularly in the beginning than later) by *carefully demarcated and explicitly limited* periods of more directive tuition aimed only at ensuring an adequate grasp of basic concepts. There was a well-nigh universally felt need for this among tutors and students and the introduction of this would have "protected" the method from criticism and cushioned the anxiety of students. Apart from such clearly delineated periods of tuition, the application of the "method" should have been more rigorously adhered to, insisted on, guided and monitored.
- i) Much more intensive training of tutors, both in the use of the method and in the content of the workbooks would be essential.

Earlier conclusions can be repeated, however, that the project proved itself to be more than merely adequate, despite surrounding difficulties of a non-educational kind, to which attention is directed below.

#### 16.2. Cost-Effectiveness

The conclusions of cost-effectiveness are based on an assessment of the chapter by D C Taylor. Perhaps appropriately, the conclusions are cautious since one cannot judge the cost-effectiveness clearly or precisely in view of a lack of conclusive evidence. If one takes as a standard of assessment the unit costs of full-time schooling for children one concludes that the project could not be regarded as significantly more cost-effective as a tuition system than the conventional schooling. It has to be conceded, however, that the saving of opportunity costs of full-time study, if added, would alter the picture. The following appears to give a picture of the situation in regard to the cost-effectiveness of the programme.

- a) The unit cost of just over R200 per student on the BTUP compares less favourably with unit costs in full-time education than Table 5 suggests, since, as Taylor notes, a calculation of unit costs adjusted to correspond to the same average number of subjects passed as is the case in full-time education might have almost doubled the figure. Furthermore, so much of the cost was in fact "hidden" by SACHED that the unit cost figure in the table could be a clear under-estimate. These factors are fully acknowledged in the chapter.
- b) The type of comparison given in Table 5 in Chapter 11 is necessary but at the same time somewhat inappropriate. Firstly, as the chapter stresses, the unit cost of Black school education in South and Southern Africa reflects an *under-spending* on education which is well-

known and incontrovertible. Unit costs appropriate to educational needs should perhaps be three to five times higher than those given appearing in Table 5, Chapter 11. Secondly, the BTUP was not training schoolchildren, but giving highly relevant training to adults in a profession and therefore the costs should not be compared with unit costs in a mass-educational system. Therefore, while unit cost comparisons are a useful benchmark, final assessments of cost-effectiveness must take wider criteria into account, as Taylor suggests.

- c) In the BTUP full account must be taken of the saving of opportunity costs, since if teachers were removed for full-time education the administration would have to appoint substitutes and give bursaries. The unit costs, with these elements included, would attain an average of well over R5 000 (very broadly estimated). This emphasises an important cost-saving element in the project.
- d) The point being made here is simply that these teachers *have* to be upgraded and the need is such as to qualify comparisons with full-time education. (Even if the project is being evaluated simply as a system of distance teaching (not teacher upgrading), a full unit cost, corrected for subjects passed, of as high as roughly R400 to R500 would still compare favourably with what the minimum unit costs *should* be in mass education in an equitable system.) The project planners at the outset took the conventional formal educational system as a benchmark for cost-evaluation. For this reason Taylor in Chapter 11 makes comparisons with the formal system, while acknowledging, however, the limited meaning of the comparisons.
- e) A more appropriate benchmark would perhaps be unit costs in a primary teacher training college, and a figure of R800 supplied by Taylor puts the BTUP in a very favourable light indeed at R200.



- f) In view of the imperative for teacher students to become better educated, and in consideration of the subsequent saving of massive opportunity costs (or substitution costs to allow for full-time study) the unit costs for the BTUP in relation to the success achieved would be *very modest* even if they were as high as R500 p.a. when corrected for subjects passed.
- g) A doubt would be thrown on this statement if the likelihood exists that teachers who become "upgraded" were to leave the service in substantial numbers. Responses to the student interviews suggest that a clear majority of the students are highly committed to teaching. Only some 20% said they would leave teaching if the opportunity presented itself and of the 55 to 60% who stated that they had (vaguely) considered alternative careers at some point, very many had done so because of problems in the teaching profession and not because they were uncommitted. We would assess the majority to be loyal to teaching and likely to remain in the profession.
- h) The issue of the cost of salaries in the project as a proportion of total costs (32% according to Taylor) is comforting since this proportion is well below the proportion in most mass-educational systems, and below most development projects for that matter.
- i) Budgeting and cost-control procedures can be favourably assessed. Quarterly financial report forms constituted an effective means of monitoring expenditure and provided a basis of cost-control. The procedure was discontinued towards the end of the project, unfortunately, but remains a useful model of financial control. Overall, expenditure remained within limits of budget restrictions: one has to balance under-expenditure in 1975 and 1977 against the over-expenditure in 1976.

- j) On the basis of an assessment of the distribution of costs and benefits, one can conclude that the BTUP was extremely cost-effective from the students' point of view.
- k) One may also conclude that the potential for economies of scale on the project was very considerable, and in this sense the analysis by Taylor points to the desirability of schemes such as the BTUP expanding in size and scope.

One can conclude that the project was cost-effective by appropriate standards, although perhaps not quite as cost-effective as the initial planning envisaged. One can go further and say that the project was unduly parsimonious, even in the light of the need for its absorption by the Bophuthatswana Department of Education. The value of teacher upgrading warranted a larger budget (which would in turn have allowed more numbers of centres and students, and hence economies of scale without loss of quality).

Dr Robin Lee, in an interview, questioned the wisdom of attempting to align unit costs for the project with those in mass-education. The evidence supports him fully and suggests that a doubled budget would still have been money very well spent.

### 16.3. Organisational Effectiveness

Here lie the greatest weaknesses of the project. It is necessary to state very firmly at the outset, however, that almost all Third World development programmes suffer from failings of a similar nature, probably on a much larger scale. Organisational efficiency is the Achilles heel of development programmes and many fail in attaining their goals because of these problems. The BTUP did not fail to reach its goals - it succeeded relatively well.

A great deal has been said about this aspect and it is sufficient at this point to summarise the problem very briefly.

- a) There was insufficient time allowed for planning and experimental course-writing.
- b) Due allowance was not made for the drop in efficiency as local personnel took over tasks from highly efficient functionaries like Lee, Adler, Derkx and others. In this regard it is worth pointing out again that the project had to accommodate a highly problematic situation as far as the local director was concerned. The seriousness of that problem cannot be over-emphasised.
- c) There was insufficient time and effort devoted to training and selection of staff and tutors, and to guiding and monitoring them after appointment.
- d) Once staff were appointed, mechanisms to replace poor staff without conflict and stress in the project were not adequately attended to or explored (probation periods, rotating personnel, joint roles, etc. may all be necessary in launching a programme with untried staff).
- e) The expansion of the number of study centres was too rapid at too early a stage. Cognisance is taken of pressures from the department to expand, but there could have been firmer resistance if there had been more circumspection in early planning estimates of the scope of the project.
- f) Study centre administrators were seriously underpaid, but more apposite is the consideration that the role should have been a full-time one from the start, budget considerations notwithstanding.
- g) There should have been a feasibility study as planned.

- h) The project evaluation, in addition to structured methods, questionnaires and other quantitative methods should have relied to a greater extent on informal feedback from 'insider' informants, on complete analysis of evaluation data and on a systematic input into decision-making (an evaluation assessment at each meeting and at the time of important decisions).
- i) Closer integration into the Bophuthatswana Department of Education should have been achieved at an earlier stage. The chairman or deputy chairman of the management committee could have been the secretary or under-secretary for education, or the chief planner, if no closer structural integration were possible.
- j) A more careful political analysis of Bophuthatswana should have been made, including a study which might have shown that the support that SACHED methods receive due to opposition to "Bantu Education" in major urban areas would not have been forthcoming given the typical attitudes of teachers in Bophuthatswana.
- k) More account should have been taken of the likelihood of hidden misunderstandings, covert misperceptions and insufficient confidence to provide frank feedback in a project with a clear race-interface at a critical point in its structure - the Johannesburg vs. the field staff division. Staff training groups for all categories of personnel in joint sessions might have laid a sound basis for better communication early on.
- l) There should have been a deliberate cultivation of a mode of interpersonal communication and a style of presentation on the part of the White staff, appropriate to the social and political features of the host administration. Part of the problem was one of interaction between a somewhat non-conformist and highly confident White intelligentsia and more conformist, less confident Black professional and bureaucratic personnel.

- m) Preparation of workbooks was too frequently delayed (as many as one third of deadlines were not on time).
- n) Perhaps the most serious communication problem existed between the critical category of tutors and the project staff and management. Given the very great importance of the tutoring role, and the clear indications from the survey data on this evaluation that this role was highly problematic, a clear need existed for a more interventionist management function, with due circumspection and sensitivity. A project like the BTUP with a structural division between a central or head office staff and field staff requires a mobile and active manager or service director with the freedom to operate as a constant bridge of communication between the field and "head office".

These difficulties, although serious in some instances, do not detract from the fact that the project was an overall success by any standards. I would add that even by the standards and interests of those officials in South Africa and Bophuthatswana who might have been involved, the decision to terminate the project early was a tragic mistake.

In assessing the weaknesses outlined it has to be borne very prominently in mind that the project operated under very rigorous cost constraints, and that many, if not most of the problems could have been alleviated under less stringent self-imposed cost limitations. Nevertheless, the attempt to run a highly cost-effective programme which could have been handed over to the Bophuthatswana education authorities was praiseworthy in itself. It seems clear that the project planners could have allowed themselves greater budgetary leeway and still have produced a viable model for wider implementation.

The project, as recorded, stands as a very impressive example of the creative adaptation by Adler, Derkx, Lee and others of distance teaching methods to a situation in which the need for alternative approaches is critical for successful human, social and economic development. The remarks of three students on the closure of the project provides us with an eloquent illustration of the value of the project: *"I am still sorry (that it was stopped) ... I can't stop learning in order to nurse my disappointment"; "they have 'killed' the teachers who were studying"* and *"I feel proud of what Turret did to me."*



## APPENDIX 1

### SACHED BOPHUTHATSWANA PROJECT

#### STATEMENT OF AIMS AND PRINCIPLES

1. The project has two main aims, which are of equal importance. One of these aims is to develop a system of 'supported distance teaching and learning' which is both educationally sound and cost effective (see paragraph 2). This will be carried out together with the second aim, which is to provide opportunities for teachers in Bophuthatswana to study for and pass junior and senior certificate examinations (see paragraph 3).
2. The 'supported distance teaching and learning system' is based on distance teaching materials produced for a particular audience, and the basic study method will be individual study by the student using these materials. In addition, study centres will be provided for students, together with a certain amount of tutoring. In the centres group discussion and work will be encouraged wherever possible, and certainly whenever it is part of the design of the course. Tutors will be trained to carry out these tasks. The cost-effectiveness arises from the significant savings that can be achieved through this re-distribution of the usual educational resources. It is possible to distinguish these kinds of saving:
  - 2.1. saving on the major recurrent cost of traditional educational systems, namely teachers' salaries, by concentrating on student self-instruction from carefully-prepared materials. Expenditure is shifted away from this labour-intensive aspect of education, and a portion of the funds is invested in developing and producing materials that actually reduce in price-per-unit as the number of students increases;



- 2.2. saying achieved by establishing the project in a 'symbiotic relationship' with existing institutions and services, and drawing upon any available under-use in these areas; for example, use of existing buildings when not in normal use to save building costs in the project;
  - 2.3. a large 'saving', difficult to quantify, which accrues to the individual students and to the economy generally by keeping the students economically and professionally productive during part-time study.
3. The system described will be implemented in Bophuthatswana, with the co-operation of the Department of Education there, and will concentrate on providing opportunities for in-service upgrading of academic qualifications for teachers. In the first instance, courses will be available at junior and senior certificate levels; though this initial aim is linked with an interest in devising a system of study that will also be suitable for offering opportunities for in-service professional training.
4. The project is also committed, in principle, to develop a system of instruction that can be taken over and administered effectively by the Bophuthatswana Department of Education, after the five years of the pilot project. In relation to this, it is expected that the project shall, as soon as possible, be staffed entirely by Tswana citizens and that the other projects within SACHED will act in an advisory consultative capacity.

5. Especially, the project recognises a commitment to teachers who are unable to attend a study centre. Once the study centres have been established, a special effort will be made to assist study by correspondence materials alone in the case of these teachers.

6. It is also recognised that in the circumstances in which the study centres are being brought into existence, they will necessarily create a range of responses in the community. The project is committed to attempting to anticipate such responses and to adjust activities to them; to monitor and record unanticipated responses and, generally, to react in appropriate and sympathetic ways to the real community needs that may appear over time.

In particular, we are interested in the social and professional mobility that may become possible for teachers succeeding in obtaining further qualifications. We cannot at this stage predict the consequences (if any) of such a development.

7. Finally, the project is committed to conducting a systematic and continuous evaluation of its own activities. This 'evaluative research' will be carried out by persons fully familiar with, but not employed full-time by the project, and will have three main aims:

7.1. to provide information for decision-making during the running of the project;

7.2. to provide information for a terminal or summative evaluation of the success (or failure) of the project in meeting any or all of its objectives;

- 7.3. to provide source material for a 'manual' or 'set of guidelines' to anyone proposing to institute a similar project; and/or a 'model' of action which can be put forward by SACHED to other education systems in developing areas. It is envisaged that both such documents will eventually be published.

DR R H LEE  
07/10/1974

## APPENDIX 2A

### DISTANCE LEARNING AND TEACHER UPGRADING:

#### A PROJECT IN OPERATION (1)

Robin Lee : Educational Consultant,  
Bophuthatswana Teacher Upgrading Project

#### ABSTRACT

1. A distance learning system is being developed for the purpose of upgrading the academic qualifications of teachers in a homeland area in South Africa.
2. The system is described as it is operating at present, with concentration upon the long term aims of the project. Specifically, attention is given to the need for such a project in the context of the Bophuthatswana educational system; the origins of the various methods employed and the combination aimed at; the costing and financial control of the project; and the evaluative research programme which is being undertaken in conjunction with the project.
3. The project began officially on 1 January 1975 and it is too soon to provide evidence of successes or failures. The article describes the scheme as it is intended to operate, quoting some statistics from a first Student Opinion questionnaire. Reliable evaluation data will only be available during the second year.

#### Part One : Aims of the Project

The Bophuthatswana Teacher Upgrading Project is one among several educational programmes sponsored by the South African Committee for Higher Education, all of which are designed to provide learning opportunities for adult Black students.\*

The Teacher Upgrading Project (which was planned during 1973/4 and began in January 1975 has two main aims, of equal importance. The first of these aims is to provide study materials and tutoring to help teachers in Bophuthatswana to prepare themselves for, and to pass, the Bantu Education Department's

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\* The SACHED Trust also sponsor an urban Study Centres Project, a correspondence college, a newspaper educational programme and the development and production of effective study materials. The Teacher Upgrading Project itself is jointly sponsored by SACHED, the Bophuthatswana Department of Education and The Anglo American Corporation.

Form Three examination and/or the National Senior Certificate examination. This initial aim is linked with a further long term aim : to develop a system of study that will also be suitable for further professional teacher training.

The second main aim is to develop and test a system of 'supported distance teaching and learning', which is both educationally sound and cost-effective. This system involves the use of study materials produced for a defined audience, and the basic study method relies upon student work in groups, pairs or, sometimes, alone, in specially established study centres. A limited amount of tutoring is included. (The distance learning system is described in greater detail in Part Three.)

The cost-effectiveness of the programme will, it is hoped, be realised in three main ways;

- i) saving on teachers' salaries (usually the largest item in any educational budget), which is made possible in this project by a concentration upon student work with effective materials;
- ii) capital and recurrent savings achieved by planning the project to operate in a 'symbiotic relationship' with the existing educational system, taking up the slack and 'legitimised waste' (Illich 1973) found in most educational systems;
- iii) a large 'saving', impossible to quantify, which accrues to the individual student, the education system and the economy generally by keeping the 'teacher-students' economically and professionally active during part-time study.

A further main commitment of the project is to maintain a continuous evaluation of its activities, culminating in a detailed research report on the years 1975 - 1979. Some 8% of the total budget is devoted to the Evaluative Research Programme.

In practical terms, it is planned that 1 000 teachers will each spend an average of 2,5 years studying with the project, during the period 1975 - 1979. They will work in eight study centres, established in various parts of the homeland, and will receive tutoring for approximately *50% of the hours spent in the centre*. For the remaining time, they will work alone or in groups, and also be expected to *study 2 - 3 hours per week at home* in each subject. Teacher-students will normally study three subjects each year. No pass rate has yet been projected, but the project will be more successful than private study by correspondence if it achieves anything over a 30% pass rate.

#### Part Two : Bophuthatswana, The Homeland and Its Educational System

Bophuthatswana is the homeland area for members of the Tswana population group. It covers areas in the central and western Transvaal, the north western Cape, and the Thaba 'Nchu area in the Free State. (The project now operates in only four of thirteen educational circuits.) At present, the homeland "consists of eight large and a number of smaller blocks of land" (Horrell, 1973, page 9), measuring 3 754 018 hectares in all. Consolidation is planned, which will reduce the number of separate areas to six. Bophuthatswana became a self-governing territory within the Republic on 1 June 1972, with a 48-member Legislative Assembly and a 6-member Cabinet under a Chief Minister.

The Bophuthatswana Education Act of 1973 gave the homeland's Department of Education powers "to perform all the work necessary for or incidental to the control, administration and supervision of education". The Minister of Education heads the Department, while the professional and administrative head is at present a white official, assisted by white and Tswana officials. The Education Planner and the thirteen Circuit Inspectors are Tswana officials. (Report of the Department of Education, Bophuthatswana, 1972, page 7.)

In 1974 there were 778 registered schools in Bophuthatswana, of which 682 were primary and 82 secondary schools. (*Bantu Education Journal*, April 1975, pages 20-21.) In the same year there were 303 527 primary school pupils, and 29 737 post-primary pupils, giving a total school-going population of 333 264. (*Bantu Education Journal*, May 1975, pages 20-21.) In 1974, a total of 5 579 teachers were employed. (Report of the Department of Education, 1974.)

Reports consistently emphasise a severe shortage of teachers, amounting to 3 628 at the end of 1972 (Report of the Department of Education, 1972, page 13). During 1974, only 300 new posts could be created, in the face of a need for at least 700 posts.

Statistics indicate that some 25% of primary school teachers (that is, some 1 200 teachers in all) are professionally and/or academically underqualified for the posts they hold, while an even higher percentage lack qualifications necessary to teach at a secondary level. The initial questionnaire distributed to gauge interest in the project received over 1 800 positive replies from teachers wishing to study for the senior certificate.

### Part Three : The Problem and the System Designed To Meet It

The situation in Bophuthatswana shows, thus, many of the characteristics of educational systems in developing areas. A vast demand for education, especially at the primary level, necessitates employing under- or even unqualified teachers. Such a step results in turn in primary school leavers whose educational level is low, fewer and worse entrants to secondary school, fewer well-taught school-leavers and still fewer good trainee teachers - and so back to the original problem of inadequately qualified primary school teachers. The Teacher Upgrading Project is an attempt to help teachers break out of this cycle, in respect of academic qualifications at least.

Several factors had to be borne in mind in devising an educational programme to meet these needs:

- i) only an in-service programme could be considered. The teachers have to remain in the schools and have to continue to earn;
- ii) the programme had to be relatively cheap. Funds needed to be privately raised for the project, as the Department's limited budget (amounting to an average of R18,50 per school pupil in 1973/74) could not support such a scheme, desirable as it might be;
- iii) financial restraints, and the need for an in-service course, indicated that some form of 'correspondence study' was needed, with only a limited expenditure on tutoring (costs of which rise with student numbers), but with a concentration on study materials (unit costs of which fall with rising student numbers).



iv) however, research conducted into traditional correspondence education indicated a very low pass rate indeed for study by that method alone. Glatter and Weddell report that only 16% of a group they followed completed a four-year course by correspondence study. (Glatter and Weddell, 1971, pages 114-115.) Similar percentages are recorded elsewhere. In the United Kingdom in the late 60's and 70's much thought had been given to this problem by academics involved in setting up The Open University, and their findings indicated that the individual student required considerable support in his correspondence studies. The later success of The Open University in obtaining significantly higher rates shows that these conclusions had value. (McIntosh, 1972.) The educational programme currently used in the project embodies these findings, and owes much to The Open University model, especially in the tutoring system (Crispin, 1972).

In essence, the model used contains a strong supportive structure in the form of permanent study centres, regular tutoring assistance, access to libraries and some learning aids, extensive contact with other students and the rapid marking and returning of written assignments. Each of these aspects has been previously identified as crucial to part-time correspondence students. The absence of one or more of these facilities is regularly quoted by distance students as a reason for abandoning or failing a course. Only time will tell if other reasons spring to the fertile minds of drop-outs from the project!

The distance learning system of the project is, accordingly, organised to create this support. Materials are prepared by a central group of course-writers, who maintain contact with the tutors regarding the success of the materials, and receive information from the evaluative studies conducted (for a description of The Open University system see Lewis, 1971-2).

students enrol at the nearest study centre (usually a primary school), and are expected to attend on four afternoons each week. In addition, an average of 8 full-day seminars per student are held during the year. A tutor is employed full-time in each subject, and is a qualified (normally graduate) teacher with experience of the Bophuthatswana situation and of the requirements of the examinations. Tutors visit centres in a regular cycle, each student usually receiving two classes in each subject (a total of six classes) during each three-week cycle. Each study centre is headed by a part-time administrator (usually the principal or a senior teacher at the school), who supervises study in the absence of the tutors, keeps attendance records, and issues library books. Prescribed texts may be obtained through the project.

Educationally, emphasis is laid upon adequate coverage of the syllabus, and upon creating structures that enable the teacher-students to continue effective study without the tutor. As mentioned before, the study materials are specifically designed to encourage self-reliance and the tutor may divide a large group into smaller groups, with a group leader, to try to achieve coherence and continued study in his absence. None of the approaches is novel in itself, but the aim is an effective combination of known techniques. (See, for instance, Weddell, 1970, and Kabwasa and Kaunda, 1973, pages 65-70.)

Regular written assignments are given, and in June and September formal internal examinations will be set, marked and discussed.

First findings from the evaluation programme indicate considerable student expectation that they should simply rely upon the tutors, and a tendency to skimp on work during their absence. Several techniques have been used to avoid this, including very detailed schedules of work that has to be done while the tutor is away. However, it is as yet far from clear that we can overcome the teacher-dependence which is so marked a product of conventional schooling.

#### Part Four : The Costing System

One of the most important tasks of the planning stage of the project was to establish a budget that would accurately reflect the real financial needs of the project, be reasonably flexible in relation to rising costs, and enable records to be kept of all categories and items of expenditure. As a first step, the projected educational and administrative system was analysed, and all possible kinds of expenditure listed. These were then grouped according to convenient larger categories; for example, expenditure on 'travel' includes purchase, maintenance, licensing and repair of vehicles, fuel, insurance, private vehicle allowance and subsistence.

Then a realistic value was decided upon for each item and each category. As often as possible this was done according to real costs, with an allowance for inflation. In this way, a grand total for each category was reached, and a total budget for 1975.

The budget for the full five years of the project was arrived at by adding a cumulative 10% annual inflation factor for the first year's costs, minus capital expenditure on equipment which would last for the duration of the project.

For the purposes of financial control, the total sum in each category was then divided into three kinds of expenditure: *capital* (once-for-all expenditure), *annual fixed* (essential expenditure independent of numbers of students, for example, travel), and *annual variable* (expenditure varying in direct relation to student numbers). As a comparative exercise, budgets were then drawn up for projects with 700 and 1 000 students respectively over five years. As was expected, the cost per student declined as the number increased. It was accordingly decided to seek finance for the larger student numbers.

financial records are kept in the usual way, and all unbudgeted expenditure, and real expenditure against the budget considered quarterly by the Management Committee, which has power to re-allocate funds within the budget. (For valuable guidelines in this area, see Coombs and Hallak, 1972.)

#### Part Five : The Evaluative Research Programme

As part of the aims of the project, an evaluative research programme is seen as important, at these levels:

- i) it will provide information needed for decision-making during the project (formative evaluation);
- ii) it will collect and present information relating to a final judgement on the success of the project. This 'summative evaluation' will provide the means of judging the project's achievements against stated objectives;
- iii) the evaluative research programme will culminate in a published report of the project that could provide a model or set of guidelines to anyone else considering a similar project.

Evaluation concentrates at present on administrative procedures, costs, student opinion of various aspects of the project (as measured by attitude questionnaires) and, as soon as some regular testing begins, student progress towards the standards required in the final examinations. Little more evaluation can be done so early in the project than to set up procedures to ensure that data-gathering opportunities (such as the student application form) are used to record important baseline data, against which changes over time may be measured. In setting up these procedures valuable guidelines have been taken from McIntosh (1973) and Suchman (1967).

To date, however, one Student Attitude Questionnaire has been issued and analysed. The format used has been adapted from similar questionnaires developed at the University of the Witwatersrand. Students are presented with a series of favourable and unfavourable statements about the project, and are asked to express agreement or disagreement on a four point scale. Examples of such statements from the first questionnaire (with actual percentage responses) are:

	SD	D	A	SA
9. The study materials have helped us to work together in groups	2	7	50	41
25. I like working in a pair with another student	1	4	53	42
28. I would study just as well at home as at the centre	36	36	21	7
29. The tutors are giving us too many assignments to do at home	19	36	31	14

SD = strongly agree  
D = disagree  
A = agree  
SA = strongly agree

Statistical analysis of responses is taking place in order to establish a reliable scale of items that will measure variables of student opinion on many aspects of the project.

#### Part Six : Conclusion

The project has at present a staff of six (Director, Educational Consultant and four Tutors), 465 enrolled students in 6 study centres, and over 4½ years to go. It is hoped that by late 1976 the evaluation programme will have produced clear indications of the successes (or failures) of this project, which may prove to

be an important development in out-of-school education in Southern Africa. If the project is successful, the approaches being studied could be adapted to any developing educational system. They could also be extended to assist teachers studying by correspondence for university degrees (Bophuthatswana has, for instance, only 60 graduate teachers in a teacher population of 6 000), or to the field of professional in-service training.

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## APPENDIX 2B

### ACADEMIC DESCRIPTION OF TEACHER UPGRADING PROJECT

The Bophuthatswana Teacher Upgrading Project provides immediately much needed assistance in the provision of qualified teachers and also an opportunity for a systematic testing and evaluation of several SACHED developments. Over a period of five years, we will closely scrutinise the courses we have developed, the training of our tutors, our study method, various teaching strategies and the organisation and functioning of study centres.

From this intensive monitoring and evaluation several valuable outcomes may be expected:

- \* the educational system of a developing black homeland will benefit from the in-service academic upgrading of nearly 20% of its underqualified teachers;
- \* a system of distance teaching and learning will be established. This will be administered, from the start, by citizens of the homeland and will be viable as a cost-effective system when taken over by the Bophuthatswana Department of Education;
- \* an evaluative research programme will establish the successes and failures of the project. This evaluation will culminate in a detailed description of the project and a published manual of guidelines to educational planners in other developing areas;
- \* an educational evaluation of learners and materials will establish standards for a systematic revision of distance teaching materials;
- \* revised materials produced in this way will become available to future students within the Teacher Upgrading Project and beyond it.



The project, then, synthesises four elements:

1. *devising and setting up a teaching and learning system* which is based on student study of materials, but which provides the support and encouragement needed to supplement isolated 'correspondence study'. Through The Open University and several projects in developing areas, the basic principles of a supportive, student-centred distance learning system are now clear. This project will develop and apply these principles in the local situation. As the attached *Statement of Aims and Principles* shows, equal weight is given to the immediate human value of education and to the need to understand and optimise the system through which these human benefits are gained.
2. *evaluating the project itself* from several angles. For example, great attention will be paid to student motivation in undertaking the courses, as well as to the subsequent careers in or out of teaching. The effect of home circumstances will be assessed, as well as the best way of using tutors who have to travel between centres. Above all, the cost-effectiveness of the project will be kept under evaluation, in relation to the costs of conventional schooling, and in relation to the financial ability and willingness of the Department of Education to continue the project after the initial five-year experimental period.
3. *an educational evaluation programme* will concentrate attention upon the match or congruence between the primary mental activities and learned skills assumed by course writers and the real mental and cognitive level of the audience. This programme will be methodologically complicated, but, in essence, involves these steps:

- i) establishing the cognitive make-up of the audience through validated and standardised tests evolved by the (South African) National Institute for Personnel Research. These tests have specifically been developed in terms of rural, semi-urbanised and urbanised Blacks in South Africa, and, by factorial analysis, allow a number of differentiated cognitive abilities to be measured;
- ii) drawing upon the psychological and psychometric theory underlying these tests to establish ways of analysing existing course materials. The aim here would be to establish which cognitive skills were assumed or taught in the material;
- iii) attempting to relate the information obtained in (i) and (ii), to reveal areas of match or mismatch between the course material assumptions and the real abilities of the audience. From this study it might be possible to provide concrete and systematic instructions to course writers engaged in revising or re-writing materials;
- iv) producing new or revised materials based on the research carried out, and using these in year 4 and 5 (1978 and 1979), while repeating the testing of students and analysis of materials carried out earlier. It is expected that there will be a closer congruence between materials, methods and learner - a result which will be very satisfying to the learner and have profound educational consequences.

The time scales of the project will be as follows:

- 1975 :    i) establish the project and enrol 500 students in 4 courses;  
          ii) carry out initial testing of students and analyse existing materials;  
          iii) carry out any immediate revision needed in the materials.
- 1976 :    i) enrol a further 200 students and establish two more courses;  
          ii) prepare report of congruence between materials and learners and propose specific steps to course writers;  
          iii) the results of the educational evaluation incorporated in new courses, and revision or re-writing of existing courses begins.
- 1977 :    i) continue project with further intake of 200 students;  
          ii) re-written courses produced and used.
- 1978 :    i) continue project with intake of 100 students;  
          ii) re-test students and analyse assumptions of newly-produced materials.
- 1979 :    i) complete first phase of project and negotiate handover to the Department of Education;  
          ii) write report on whole project including educational evaluation programme.

APPENDIX 3A

TEACHER UPGRADING PROJECT:

DISCUSSION ON THE ROLE OF THE PROJECT IN  
THE BOPHUTHATSWANA EDUCATIONAL SYSTEM

"The major instrument for producing the people to undertake the development of a country is the educational system. But having made this statement, I must immediately qualify it. The wrong sorts of education, or disproportionate amounts of education not intrinsically undesirable, can be even more wasteful of human and economic resources than too little (education)." (Adam Curle : *Educational Strategy for Developing Societies.* )

1. The project aims to provide academic upgrading to primary school teachers:

- 1.1. Is academic upgrading what they need?
- 1.2. Could we be better involved in other forms of adult education : e.g. rural development or health?
- 1.3. Will academic qualifications be mostly of benefit to the education system or to the teacher personally? Does it matter?
- 1.4. We are potentially qualifying teachers for secondary schools. Is this meeting a need?

2. The project also aims to create a method of achieving this upgrading which can be left as a resource in Bophuthatswana, and established in other areas:

- 2.1. Will the method continue to operate in a large organisation like a Department of Education?

- 2.2. Can the Bophuthatswana Department (or another homeland department) afford the system?
- 2.3. Does the system work in terms of its internal structure and the demands on its staff?
- 3. The project aims to create independent learners:
  - 3.1. Is this aim in conflict with the real beliefs of the teacher-students?
  - 3.2. Is this aim in conflict with the examination-passing aim of the project itself?
  - 3.3. Should we be firm in pursuing our aim of independent learners even if it creates anxiety (in tutors and students) and possibly exam failures?
- 4. The project, in theory, fits into the existing educational system. But conflicts of interest and time are appearing:
  - 4.1. Should we insist on and fight for a fair trial for the system, do we have first thoughts of it?
  - 4.2. Should we welcome adaptation to the realities of the educational system?
  - 4.3. Do we know when (and why) we should cease to adapt and insist on our own needs?
- 5. The project operates in a homeland and in close co-operation with a homeland government:
  - 5.1. Does this imply a recognition of the policy of separate development? Is it assisting the possible success of the policy? Does it matter?

5.2. Do homeland governments have the power to carry out an integrated educational and development policy?

5.3. What about Tswana citizens in the "urban areas"?

These are some of the thoughts on the internal values of the project, and its external relations and image. We should ask ourselves such questions in order to find the answers.

Finding answers is important to the success of the project and to our own confidence and ease in working in the project. We do not reduce what we have already achieved by asking how we can do better.

## APPENDIX 3B

### PRELIMINARY REVIEW OF AIMS AND OBJECTIVES OF BTUP

1. At an Evaluation Executive Committee Meeting (4 August 1977) it was decided necessary for Evaluation to review the aims and objectives of BTUP in view of the fact that in certain areas, e.g. passing examinations, there seems to be a double standard operating in the organisation. Discussions have been held with David, Theo and Jenny (so far) and the following has emerged.
2.
  - 2.1. The statement of aims and principles as enunciated by Dr R Lee (7 October 1974) is accepted in principle.
  - 2.2. Number 4 in this document "The project is also committed in principle ..... after the five years of the pilot project" should be incorporated as part of a threefold aspect to the first main aim of the project - i.e. (1) should read - The project has two main aims, which are of equal importance. One of these is to develop a system of "supported distance teaching and learning" which is both educationally sound, cost effective and ADMINISTRATIVELY VIABLE.  
  
The rationale for this recommendation is that, while at present there is a "commitment in principle" to achieve autonomous administrative viability for the project, failure to achieve this (summatively) would be a measure of the project's failure.
3.
  - 3.1. The second aim of the project is, according to (1) in this document - "... to provide opportunities for teachers in Bophuthatswana to study for and pass Junior and Senior Certificate examinations". No mention is made, however, of what criteria are to be used in assessing pass rates. Discussions about this reflected a conflict in the organisation about what these criteria are/ought to be:

- 3.1.1. One view is that students ought to be passing in larger numbers proportionally than Bantu Education.
  - 3.1.2. Another view is that pass rates must be at least as good as (if not far better than) Bantu Education pass rates; also other correspondence schools and part-time students (though it is doubtful whether this information can be made available).
- 3.2. With respect to this quantitative/qualitative dichotomy about criteria to be used in assessing pass rates, the following points are noted:
- Though this is not specifically mentioned in the statement of aims and principles, the aim to develop critical faculties/independent minds through a qualitative approach in methodology is not necessarily purely a BTUP goal, but rather a general ethos that pervades throughout all SACHED activities. It would seem therefore that a qualitative viewing of exam results (i.e. must be better than Bantu Education) is more in line with SACHED principles and should be the formal criterion adopted.
- 3.3. This would also tie in with the 'educationally sound' aspect of the first main aim.
- 3.4. However, when one views the situation from the standpoint of cost-effectiveness, it would seem that a quantitative viewing of exam results is essential for the project to be cost-effective. Hypothetically speaking, it would not be acceptable financially to have a minimal number of students passing with even extraordinary pass rates.



3.5. It is proposed therefore that both 3.1.1. and 3.1.2. be accepted as formal criteria for assessing BTUP exam results.

4. With respect to this issue of developing critical faculties/ analytical abilities in the minds of students, a further point is noted here.

It is highly doubtful whether this aspect (essentially long term) is amenable to objective measurement in any real way. Nevertheless it is a factor that is constantly mentioned as an Evaluation task/exercise for BTUP. As noted previously, since this is a general SACHED ethos, it should remain as a motivating force behind BTUP but not necessarily one on which the ultimate success of the project needs to be assessed.

Shirley Singer  
29 August 1977

APPENDIX 4A

STUDENT INTERVIEW

Name of school:

1. Name:

2. Age:

3. Sex:

4. Marital Status:

5. Children:

Do you have any children?

What are their ages?

Do they stay with you?

Do they attend school? (Boarding School?)

6. Are you officially or privately paid?

7. What standards do you teach?

8. Do you have any other duties at school?

- During school hours:

- Extra mural:

9. Education Background:

a. What was the last standard you passed at school?  
When?

b. What kind of pass did you get?

c. What teacher training have you received?

In years:

Name of institution:

Name of diploma:

d. Have you received any other kind of post-school  
training/education (including correspondence courses  
for which currently enrolled):

Specify:

e. Did you have any special problems at school?

PROMPT:

Health:

Family:

Money:

Personal:

Learning problems:

10. Teaching experience:
- a. For how long have you been teaching?
  - b. Sub A and B  
Primary (Std. 1-5)  
Junior Secondary
  - c. While you were enrolled in the project which standards/subjects did you teach?
  - d. While you were enrolled in the project did you have any other duties at school?  
During school hours:  
Extra mural:
  - e. Were you released from any/all of these duties?  
PROBE:  
Specify:
11. Other work:  
Apart from teaching have you done any other work? Specify:
12. Residence:  
Have you lived in any other places - towns, villages, countries? Specify:
13. Parent education and occupations:  
Introduction: You apparently value education.  
Would you say your parents have had any influence here? - from there:
- a. What schooling (and other training) did your  
Mother:  
Father:
  - b. What is the occupation of your:  
Mother:  
Father:
  - c. Is there anyone else who has been an important influence in your life? PROBE.
14. Aims in Life:
- a. When you were at school, what were your aims or goals?
  - b. Later, when you were a teacher, but before joining BTUP, had your aims changed? PROBE.
  - c. And now?

15. Home Circumstances : During the project;
  - a. How far is the school from your home?
  - b. Whereabouts do you stay?
  - c. How many people live in your house? Adults: Children:
  - d. What type of house do you have? Number and type of rooms.
  - e. Give a brief timetable of your average week day.
  - f. Where did you prefer to study: at home, at school?  
PROBE.
  - g. What privacy did you have at home (was there a place where you could study on your own)?
  - h. What type of transport was available from your home to school? How convenient was it?
16. The Study Centre:
  - a. How far was the centre from your school?
  - b. What transport was available and how convenient?
  - c. What proportion of sessions (at centre) did you miss?
  - d. What made it difficult to attend?
  - e. How useful was it for you to attend sessions?  
PROBE (by subject).
17. Greatest problem facing Bophuthatswana:
  - a. What would you say is the greatest problem facing Bophuthatswana?
  - b. PROBE: How do you feel about your own future in Bophuthatswana?
  - c. How do you feel about education in Bophuthatswana?
18. Personal change:
 

How did the programme change your ideas about anything?  
PROBE : Give examples (reflect vagueness).
19. BTUP:
  - a. What made you decide to study further?  
PROBE : What was your aim when you enrolled in the project?
  - b. How could this have helped your teaching?  
(Reflect vagueness - do not probe too deeply.)
20. Pupil Qualities:
 

What do you think makes a good pupil?

21. Teaching Satisfaction:
  - a. How satisfied are you with teaching as a profession?
  - b. How long will you continue in the profession?
  - c. PROBE: What kind of jobs have you considered?
22. Subjects studied:
  - a. Which subjects did you take in the project?
  - b. Did you receive notes in all the subjects?
  - c. Where any of these notes not Turret? SPECIFY:
  - d. If you received notes from Turret and another college, did you find a difference in their way of teaching? PROBE.
23. Own Study Method:
  - a. In your experience what is the best way to get good results?
  - b. PROBE : Is there any particular way of learning different subjects?
24. Subject Preference:
  - a. Which subjects did you find most difficult? PROBE.
  - b. Which subjects did you find easiest? PROBE.
  - c. Which subjects did you find most interesting? PROBE.
25. BTUP:
  - a. What made you enrol with SACHED (Turret)?  
PROBE: Was there anything special about SACHED which attracted you?
  - b. (Preliminary chat : "We who were not part of the project were not certain how you felt about it .... then:)  
What did you find were the best features of the programme?  
PROBE: (probe for centres if not mentioned).
  - c. What did you find were the worst features of the programme? PROBE.
  - d. What practical difficulties did you have? Probe (don't prompt).
  - e. What learning problems did you have - by subject:  
PROBE (don't prompt).
  - f. Your workbooks had the answers at the back. How did you like this idea?
  - g. What were the most and least enjoyable parts of the programme? (Indicate difficulty in answering this.)

26. Support from the system:

I am going to give you a number of topics. Give each a mark out of 10 (using same scale as in classroom):

PROBE each answer:

- a. Tutor helpfulness : by subject
- b. Encouragement from principal:
- c. Encouragement from friends:
- d. Your own effort:
- e. Encouragement of family:
- f. The teaching materials : by subject
- g. Co-operation of administrators:

27. Own teaching:

How was your own teaching changed - if at all? PROBE.

28. Schedules:

- a. Did you receive schedules in each subject?
- b. Were you able to keep up with the schedules? If not, why not? (By subject.)
- c. Did you find the schedules helpful? PROBE (by subject).

29. Summer/Winter Schools:

- a. Did you attend summer/winter school? When?
- b. To what extent was it helpful?

30. Study Group:

Do you prefer to work on your own or with a partner?  
PROBE.

31. Teacher Qualities:

What do you think makes a good teacher? PROBE.

32. Tutors:

- a. How would your tutors describe you?
- b. How helpful were your tutors? - by subject.
- c. What kind of tutors would you have liked to have had?

33. Staff Attitude:

Since the close of the project, has there been any change in attitude of principal/staff toward you? PROBE.

34. Results:

- a. What advice were you given about the kind and number of subjects to take?

- b. Did you take this advice? If not, why not? (By subject.)
  - c. What were your results : by subject and year.
  - d. What accounts for your exam success/failure? PROBE.
  - e. Did you consider repeating any courses failed? PROBE.
35. Friends:
- Think of the friends with whom you spend most of your time.  
What is their occupation/hobbies/joint activities?
36. Trial Exams:
- Did you find it helpful to write trial exams? PROBE.
37. General:
- a. In 10 years' time what do you expect to be doing?
  - b. For what reasons do you think the project was closed?
  - c. What were your reactions at the time?
  - d. How do you feel now?
  - e. If the project were to restart, what are your feelings about enrolling again?
  - f. Since the closing of the project, have you thought about studying further?
38. Recreation:
- What is your favourite recreation?

APPENDIX 4B

PRINCIPALS INTERVIEW

1. a) Name of principal:  
b) Age:  
c) Sex:
2. School and Staff:  
a) Name of school:  
b) Location of school:  
c) Size of school:  
d) No. of staff who participated:  
e) Years in which they participated:  
f) Size of total staff:  
g) Qualifications of non-participant staff:  
    Std 8  
    Matric  
    Diploma  
    Degree
3. Own Educational Background:  
a) Last standard passed (+ kind of pass):  
b) When was this?  
c) Teacher training: In years:  
    Name of institution:  
    Name of diploma:  
d) Other post school training/education, including correspondence courses for which currently (1979) enrolled:  
e) (If principal does not have matric) Is there any particular reason why you have not done Std.10?
4. Teaching Background:  
a) What is your teaching experience in years?  
    Sub A and B;  
    Stds. 1 - 5:  
    Junior Secondary:  
b) For how many years have you been a principal?



5. Bophuthatswana Teacher Upgrading Project (BTUP):
  - a) How were you informed about the project?
  - b) Why did you decide your school should participate?  
(Was the decision collective or individual?)
  - c) How were students selected?  
PROBE : What part did you play in the selection of students?
6. What kind of teacher would you like on your staff?  
PROBE : What makes a good teacher?
7. As a principal what do you consider to be your greatest problem?
8. What do you think makes a good pupil?
9. For what reason do you think your staff participated in the project?
10. We have heard the project created practical and other difficulties for principals. What problems were there in your school?
11. What were your hopes for those who participated?  
PROBE : Could the project have helped teachers in their teaching? How?
12. As a principal, what kind of improvements to the educational system would improve the performance of your school?
13. What contact did you have with the tutors during the project? PROBE.
14. What did you see as your role in the project? PROBE.
15. During the project what was the relationship between the participant and non-participant staff? PROBE.
16. Did you know the results of staff:
  - a) Who participated? What were they?
  - b) (If principal does not know the results) PROBE : Why not?
  - c) Do you know about any other attempts of staff to improve their qualifications? Details :
17. What would you say is the greatest problem facing Bophuthatswana? PROBE : How do you feel about education in Bophuthatswana?

18. a) Why do you think the project was closed?  
b) What were your feelings about the closing of the project?  
c) How were you informed about the closing of the project?
19. If the project was to be restarted, how should it be organised differently? PROBE : Would you encourage your staff to participate?
20. What changes - if any - have you noticed in teachers participating with regard to methods, attitudes? PROBE.

#### APPENDIX 4C

##### ADMINISTRATORS INTERVIEW

1. Name of school:
2. Size of school:
3. Position (status) of administrator in school:
4. What did you think of the project?  
PROBE : What were its good and bad points?
5. Why did you accept the job of administrator? PROBE.
6. Give a brief description of what the job involved for you?
7. We have heard the scheme created practical and other difficulties for principals. What problems were there in your school? PROBE.
8. What was the reaction (attitude, feelings) of those teachers who did not participate in the project?
9. Was the extra pay you received as administrator worth the amount of work? PROBE.
10. Would you do it again if such a scheme was offered? PROBE.
11. If it were to be offered again, how should it be organised differently?
12. What problems were there in the issuing of workbooks and library books?
13. What is your opinion of the tutors (by subject)?
14. What did you do to encourage attendance at centres?
15. How important was it for students to attend study centres?
16. When you had problems in your job, where did you look for help? PROBE.
17. How did you help in the selection of students for the programme?
18. Were there students who wished to join the project but had to be discouraged?

- . What did you do to encourage students to join the project?
- . In what ways did you feel the quality of teaching in Bophuthatswana schools needs to be improved? PROBE deeply.
- . Do you really think there's a need for a special scheme to improve qualifications?
- . a) Were there teachers on the staff of your own school who participated? If not, why not?
- . b) Did this create any particular problems?
- . c) Were you aware of the problems the project created for headmasters at other schools? PROBE.
- . Age:
- . Sex:
- . Educational Qualifications:
  - a) Last standard passed at school? When?
  - b) Teacher training received?
  - c) Any other post school training/education?
- . a) How were you informed of the closing of the project?
- . b) Why do you think the project was closed?

APPENDIX 4D

TUTORS INTERVIEW

1. a) Age:  
b) Sex:  
c) Subject:  
d) Where resident while a tutor:
2. Educational Qualifications:  
(include date and name of institution)
3. Position held before becoming a tutor:
4. Details of previous experience:
5. Position held since being a tutor:
6. Remuneration before becoming a tutor:
7. What made you decide to become a tutor?
8. How were you approached/Who did you approach?
9. What misgivings, if any, did you have before becoming a tutor?
10. How did being a tutor affect your day-to-day life?
11. What were the greatest rewards about being a tutor?  
PROBE : What else?
12. What were the greatest disadvantages? PROBE.
13. How would you describe the aims and purposes of the teaching method you were to adopt?
14. How did you feel about the aims (of the teaching method) shortly after you became a tutor - and now?
15. (If not already covered) What were the characteristic methods of tuition you were to adopt in your subject : (describe in detail).
16. For each method used, what was the advantage of this method and what problems did it create?

17. For each method you can recall : What aspect of the method works well and what aspect worked less well or was impractical (optional)?
18. (If tutor has overlooked some methods, remind him of them and ask above question - 17 - about them. Look for a particular method.)
19. What aspects of the methods did students appreciate most?
20. What problems did students have?
21. a) When you first started tutoring, how did you prepare for the study session?  
b) And how did this change?
22. a) How useful were internal exams?  
b) What problems did you encounter regarding internal exams?
23. Did the students find the schedules useful? PROBE : What problems?
24. What was your relationship to the writers of workbooks?  
PROBE.
25. What were your relations with senior people at SACHED?
26. Towards the end of the project local tutors were employed. How did this idea work?
27. What practical problems existed in the running of the scheme?  
a) General:  
b) Issue of books:  
c) Student attendance:  
d) Student motivation:  
e) Time available at each study session:
28. In each centre, how did you divide your time between teaching the group and discussing problems with students singly or in small groups?
29. Could you tell me of the co-operation from:  
a) Administrators:  
b) Principals not administrators:

30. Were there aspects in which co-operation from the Department was a problem?
31. How do you feel the Department viewed your work?
32. How would you describe a good pupil?
33. a) What training did you receive in becoming a tutor?  
b) Was it adequate? Was there a need for more training?
34. a) Did the students want you to teach in a way you were not trained/expected to do? PROBE.  
b) How did you resolve this?
35. How would you describe the conditions of service as a tutor?
  - a) General:
  - b) Travelling:
  - c) Work you were supposed to do:
  - d) Remuneration:
36. If the scheme were to be re-introduced, how should it be altered?
37. What type of student should be selected?
38. Describe any particular problem in any particular study centre.
39. Why do you think the project was closed?
40. We are aware that there were problems in the workbooks (content). When you came across these problems, were the writers informed? PROBE : How?  
What were these problems? PROBE.
41. How were you informed about the closing of the project?
42. How did you inform your students and principal (administrator) about the closing of the project?
43. How has the experience benefitted your career?

## APPENDIX 5

### SACHED EVALUATION PROGRAMME

### BOPHUTHATSWANA TEACHER UPGRADING PROJECT

#### 1. EXAMINATION RESULTS (1977) FOR SENIOR (FORM 5) CERTIFICATE

SUBJECT	1975			1976			1977		
	Pass	Fail	%Pass	Pass	Fail	%Pass	Pass	Fail	%Pass
English	112	31	78%	66	46	59%	113	8	93%
Afrikaans	69	98	41%	70	55	56%	123	22	85%
Tswana	68	20	77%	92	5	95%	80	3	96%
History	16	88	15%	4	33	11%	24	41	37%
Geography*	-	-	-	1	16	6%	14	45	24%
Biology*	-	-	-	1	27	4%	15	78	16%
TOTAL	265	237	53%	234	182	56%	369	197	65,2%

\*These subjects were not offered  
in 1975.

#### COMMENTS

- 1.1. In the BTUP there were 484 students registered to do courses leading to a National Senior Certificate. These students registered for either one or two year courses. The examination results of 290 students were traced. Thus the 1977 results given above reflect the performance of 60% of registered senior students. Some of the students who were taking courses which were normally completed in two years chose to write the examinations after only one year of study. Of the 40% of registered students that did not write exams, some had completed only half of their two year courses, others chose not to write, and others wrote but SACHED did not trace their results.
- 1.2. The pass rate for English and Afrikaans in 1977 is greatly improved since 1976.



- 1.3. The 1977 pass rate for Tswana has remained high.
- 1.4. The pass rates for History, Geography and Biology in 1977, while not good, are still higher than in 1976.
- 1.5. The overall subject pass rate for 1977 is up by 9,2% since 1976.

2. EXAMINATION RESULTS (1977) FOR JUNIOR  
(FORM 3) CERTIFICATE

SUBJECT	1975			1976			1977		
	Pass	Fail	%Pass	Pass	Fail	%Pass	Pass	Fail	%Pass
English	32	16	67%	25	16	61%	13	14	48%
Afrikaans	25	20	56%	25	21	54%	12	14	46%
Tswana	41	1	98%	14	4	78%	14	1	93%
History	19	39	33%	8	33	20%	8	29	22%
Biology*	-	-	-	18	32	36%	8	20	29%
Geography*	-	-	-	11	6	65%	12	23	34%
TOTAL	117	76	61%	101	112	47%	67	101	40%

\*These subjects were not offered in 1975.

COMMENTS

- 2.1. 108 students registered to do courses leading to a Junior Certificate. It was intended that these courses would take a year to complete. SACHED traced the results of 69 students, i.e. 64% of those registered. Of the remaining students, some did not write, others wrote but SACHED failed to trace their results.
- 2.2. With the exception of Tswana and History, the 1977 pass rates for all subjects are lower than in 1976.
- 2.3. The 1977 pass rate for Tswana, while slightly lower than in 1975, is up 15% from 1976.
- 2.4. The 1977 pass rate for History is more or less constant since 1976.

- 2.5. The 1977 overall percentage pass rate is down 7% from 1976 (1975 pass rate not strictly comparable due to the exclusion of Biology and and Geography).

3. GENERAL

- 3.1. From a total of 592 registered BTUP students in 1977, 359 students or 61% of all senior and junior students wrote examinations. It is not possible to calculate a drop-out rate from our figures for reasons given in 1.1. and 2.1.
- 3.2. The 65,2% and 40% pass rate recorded for seniors and juniors respectively is not the proportion of people that passed the examinations, but rather the proportion of subjects that were passed as against those written.

At the time of writing, it has been established from Mr B F Theron (Stats Dept, Bantu Education Dept) that the pass rate for Bophuthatswana full-time candidates (seniors) for 1977 was 67,2%. (Results for juniors are not yet available.) It is not possible for them to provide subject pass rates against which we could compare our results.

S Singer and L Hunter  
7 August 1978

APPENDIX 6

LETTER FROM DEPARTMENT OF EDUCATION  
BOPHUTHATSWANA GOVERNMENT  
DATE : 14.10.1975

TO ALL INSPECTORS AND PRINCIPALS OF SCHOOLS

DEPARTMENTAL CIRCULAR NO.39 OF 1975  
(File No.8/2/3/1)

PRIVATE STUDIES AND EXTRA-MURAL ACTIVITIES

- 1.1. The duty of the Department of Education is to encourage teachers to improve their academic and professional qualifications by studying privately.
- 1.2. To this end the Department's effort to improve the qualifications of professionally unqualified teachers was crowned with success because 20 serving teachers were able to pass their Higher Primary Certificate examinations in 1974 without granting them any special concessions with regard to school work or extra-mural activities. They were continually warned not to neglect their pupils and classroom duties.
- 1.3. The Department has this year, under the auspices of the Turret Correspondence College, started an educational programme which is helping teachers to pass Junior Certificate or Matriculation examinations.
- 1.4. The Department has recently decided to pay an incentive allowance to teachers who make special efforts to improve their qualifications by studying privately. This decision proves further that the Department appreciates the efforts made by teachers to improve their qualifications.

- 1.5. From the reports received, the Department is disappointed to learn that some teachers have become more involved in the pursuit of their private studies than in the important task for which they are employed and paid.
- 1.6. Some studying teachers have neglected the following duties:  
intensive teaching, regular and thorough checking-up of the pupils' exercises and the performing of extra-mural activities.
- 1.7. The serving and studying teachers should always be aware of their primary responsibility towards the internal and external activities of the schools to which they are attached.
- 1.8. Failure to discharge fully and more efficiently the duties of their occupation will be viewed in a very serious light by the Department.

Signed: SECRETARY FOR EDUCATION

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